B.Ed. First Year

Paper- VI

Learning and Teaching

Units: 1 to 16

Prof. Kuldeep Singh Katoch

Dr. Pardeep Singh Dehal

Centre for Distance and Online Education

Himachal Pradesh University

Summer Hill, Shimla, 171005

Contents

Unit No.	Title of Unit	Page No.
1.	Changing Nature of Learner, Characteristics of Effective Learner, Guiding Principles to make Teaching-Learning Effective and Productive, Characteristics of Student with Learning Disabilities	6-13
2.	Concept and Nature of Learning as a Process, Learning Curve, Conditions of Learning - objective, subjective and methodological, Learning and Maturation. Learning as an outcome -Achievement and Performance	14-26
3.	Gagne's Types of Learning, Events of Instruction, Learning Outcome	27-30
4.	Memory - Concept, Types and Strategies to develop Memory; Forgetting - Nature, Theories (Interference Theory, Trace Change Theory, Forgetting as Retrieval Failure), Factors and Strategies to Minimize Forgetting	31-39
5.	Learning: Meaning, Types and Levels of Concept Development, Strategies for Concept Learning	40-43
6.	Non-associative Learning- Habituation and Sensitization, Learning through Association –Classical Conditioning, Learning through Consequences – Operant Conditioning, Learning through Trial and Error, Learning through Observation – Modeling/Observational Learning, Learning through Insight – Discovery Learning and their Educational Implications	44-65
7.	Social Constructivist Learning – Concept of Vygotsky, Nature and Implications	66-71
8.	Transfer of Learning: Concept, Types and Strategies to Maximize Transfer of Learning	72-75
9.	Qualities of teacher in the changing scenario	76-87
10.	Role of teacher in the changing scenario	88-99
11.	Concept, Principles and Maxims of TeachingMeaning and Characteristics of Profession, Professional Ethics for the Teachers	100-112
12.	Meaning and Characteristics of Profession, Professional Ethics for the Teachers	113-123
13.	Relationship between teaching and learning, Principles of effective teaching and learning, Diverse teaching strategies for diverse learners	124-146
14.	Stages/Phases of Teaching	147-154
15.	Models of Teaching	155-171
16.	Instructional Strategies (Teaching Strategies)	172-190

Paper VI
Learning and Teaching
Course objectives: Marks: 100 (80 + 20)

The student teachers will be able to:

- understand the nature, characteristics of learner and principles to make teaching-learning effective and productive
- explain the concept, nature of learning as a process and conditions of learning
- describe the Gagne's types of learning
- explain the concept, types and strategies to develop memory
- understand nature, causes, factors and strategies to minimize forgetting
- apply the knowledge and understanding of the learning process, principles and theories of learning with their educational implications.
- describe the concept, importance and level of transfer of learning
- explain higher mental processes like concept formation and mind mapping
- explain the role of teacher in teaching-learning situations as transmitter of knowledge
- understand concept, principles of teaching, levels and phases of teaching
- identify different learning styles of learners and their implications for the teaching
- understand need and types of models of teaching

Unit 1 Learner and Learning

Changing Nature of Learner, Characteristics of Effective Learner, Guiding Principles to make Teaching-Learning Effective and Productive, Characteristics of Student with Learning Disabilities

Concept and Nature of Learning as a Process, Learning Curve, Conditions of Learning - objective, subjective and methodological, Learning and Maturation. Learning as an outcome -Achievement and Performance.

Gagne's Types of Learning, Events of Instruction, Learning Outcome.

Memory - Concept, Types and Strategies to develop Memory; Forgetting - Nature, Theories (Interference Theory, Trace Change Theory, Forgetting as Retrieval Failure), Factors and Strategies to Minimize Forgetting

Unit II : Understanding the Learning Process

Learning: Meaning, Types and Levels of Concept Development, Strategies for Concept Learning

Non-associative Learning- Habituation and Sensitization, Learning through Association – Classical Conditioning, Learning through Consequences – Operant Conditioning, Learning through Trial and Error, Learning through Observation – Modeling/Observational Learning, Learning through Insight – Discovery Learning and their Educational Implications

Social Constructivist Learning – Concept of Vygotsky, Nature and Implications.

Transfer of Learning: Concept, Types and Strategies to Maximize Transfer of Learning

Unit III : Teacher and Teaching

Teacher: Qualities and Role in the Changing Scenario -- Transmitter of Knowledge, Model, Facilitator, Negotiator and Co-learner

Concept of Teaching, Principles and Maxims of Teaching, Teaching as a Profession: Meaning of Profession, Characteristics of a Profession, Professional Ethics for the Teachers, Role of Teacher Training in Developing Professionalism in Teachers Educators

Relationship between Teaching and Learning, Principles of effective Teaching and Learning, Diverse Teaching Strategies for Diverse Learner

Learning Styles of Learners and their Implications for the Teaching

Unit IV : Phases and Models of Teaching

Phases of Teaching: Pre-active, Interactive and Post Active. Operations involved in each.

Models of Teaching: Meaning, Need, Types and Elements of Model of Teaching, Basic Teaching Models (Glaser).

Concept Attainment Model (Bruner) and Advance Organiser Model (Ausbel), Problem Solving Teaching Model.

Strategies of Teaching: Brain Storming, Simulation, Role Play and Gaming, Factors affecting the process of Learning and Teaching.

Activities (Any one of the following)

1. *A study of educational, social & cultural fun*ctions of any informal agency of education.

2. Prepare a report of educational problems of learners in any school.

3. Prepare a report of problem of SC/ST/Backward/ Minority group of children in the rural & urban area of Himachal Pradesh.

Suggested Readings

Bower , G H and Hilgard E R (1981) Theories of learning, Englewood Cliffs,. New Jersey: Prentice Hall Inc.

Chauhan S.S. (1995) Advanced Educational Psychology, New Delhi: Vikas Publishing House Pvt. Ltd. 31

Mangal S.K. 2005) Advanced Educational Psychology, New Delhi. Prentice Hall of India,

Dandapani S. (2005). Advanced Educational Psychology, New Delhi: Anmol Publications

Gagne R.M. (1985) ' The Conditions of Learning and Theory of Instruction,(IV Edition) New York, Holt: Rinehart and Winston.

Gardener, Howard (1989). *Frames of Mind. The Theory of Multiple Intelligences*, New York: Basic Books,

Hurlock, Elizabeth B.(2007). Child Development (6th Edition). New Delhi: Tata McGraw Hill,

Lindgren H.C. (1980) 'Educational Psychology in the Classroom, New York: Oxford University Press.

NCERT (2005) National Curriculum Framework, New Delhi.

NCTE (2009) National Curriculum Framework for Teacher Education, New Delhi.

Roy, S.(1994-95). ShiskhaMonovidya, Kolkata: Soma Book Agency.

Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.

Sarangapani M. Padma (2003), Constructing School Knowledge :An Ethnography of Learning in an Indian Village,New Delhi: Sage Publication.

Skinner C E, (1984) Educational Psychology New Delhi: Prentice Hall.

Vygotsky, L.S. (1978) *Mind in Society*, Cambridge: Harvard University Press.
Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES

The question paper will consist of five sections: A, B, C, D and E. Section A will consist of 8 short answer type questions (2 marks each) which will cover the entire syllabus uniformly and carry 16 marks. Sections B, C, D and E will have two long answer type questions from the respective Units 1, 2, 3 and 4 of the syllabus and carry 16 marks each. Candidates are required to attempt one question each from the sections B, C, D and E of the question paper and entire Section A. Answer to short questions should be completed in around 100 words each.

Unit - 1

Changing Nature of Learner, Characteristics of Effective Learner, Guiding Principles to make Teaching-Learning Effective and Productive, Characteristics of Student with Learning Disabilities

Structure

1.1 Introduction
1.2 Learning Objectives
1.3 Nature of learner, guiding principles to make teaching-learning effective
Self-CheckExercise - 1
1.4 Characteristics of student with learning disabilities
Self-Check Exercise- 2
1.5 Summary
1.6 Glossary
1.7 Answers to Self-Check Exercises
1.8 References/Suggested Readings
1.9 Terminal Questions

1.1 Introduction

Dear Learner, the essence of all educational processes is to ensure that students acquire certain skills. This acquisition of skills and attitudes that leads to a change in behaviour, which is the goal of education, is referred to as learning. Talking about learning, it is probably the topic which is closest to the heart of psychology. A huge body of literature on the subject matter of learning has been piled up by educational psychologists in their attempt to understand the characteristics and applications of learning. Hence, huge and diverse theories were developed in respect of learning. Dear Learners in this unit we will discuss the concept, nature of learning and changing nature of learner, characteristics of effective learner, guiding principles to make teaching-learning effective and productive, characteristics of student with learning disabilities in detail.

1.2 Learning Objectives

After completing this unit, you will be able to:

- explain nature of learner, guiding principles to make teaching-learning effective.
- Describethecharacteristics of student with learning disabilities.

1.3 Nature of learner, guiding principles to make teaching-learning effective

Educational Psychology acquaints us with the knowledge of the innate abilities and capabilities of the individual, individual differences and their measurements, the overt, covert, conscious as well as unconscious behaviour of the learner, the characteristics of his growth and development at each stage beginning from childhood to adulthood. After knowing the learner and deciding what learning experiences are to be provided, the emerging problem is to help learner in acquiring these learning experiences with ease and confidence. Hence, it deals with the nature of learning and how it take place and contains the topics such as laws, principles and theories of learning; remembering and forgetting, perceiving, concept formation, thinking, reasoning process, problem solving, transfer of training, ways and means of effective learning etc. It also deals with the environment factors and learning situation which come midway between the learner and the teacher. Topics like classroom climate and group dynamics techniques and aids which facilitate learning, evaluation techniques, and practices, guidance and counselling etc. which help in the smooth functioning of the teaching learning process.

The following points describe how learners are evolving:

- From passive learning to Active learning
- Changing the learning styles
- From remembering the Knowledge to constructing the knowledge
- From traditional learners to Facilitating Learners.
- From Quantitative Learning to Qualitative Learning.
- From guided learners to self-regulated learning.

Characteristics of Learning

Yoakum & Simpson have stated the following general characteristics of learning. Learning is growth, adjustment, organization of experience, purposeful, both individual and social, product of the environment. According to W.R Mclaw learning has the following characteristics.

- Learning is a continuous modification of behaviour which continues throughout life.
- Learning is pervasive. It reaches into all aspects of human life.
- Learning involves the whole person, socially, emotionally & intellectually.
- Learning is often a change in the organization of behaviour.
- Learning is developmental. Time is one of its dimensions.
- Learning is responsive to incentives. In most cases positive incentives such as rewards are most effective than negative incentives such as punishments.

- Learning is always concerned with goals. These goals can be expressed in terms of observable behaviour.
- Interest & learning are positively related. The individual learns best those things, which he is interested in learning. Most boys find learning to play football easier than learning to add fractions.
- Learning depends on maturation and motivation.
- Learning requires interaction
- Learning is intentional.
- Learning involves problems solving ability.
- Learning is a process and not a product.
- Learning generally involves some degree of permanence ie it is relatively permanent.
- Instincts and reflexes are not learning

Characteristics of Effective Learners

- Effective learners indulge themselves in finding out and exploring
- Good learners take risks.
- Effective learners use what they learn.
- Effective learners take advantage of context, intonation and body language.
- Effective learners set realistic goals and constantly (re)evaluate their approach.
- Effective learners take responsibility.
- Choosing a way to do things: Learners come up with original ideas; learn new things by applying what they already know; selecting and inventing new approaches.
- Effective learners are strategic and compassionate.
- The Intelligence and Emotional Quotient of effective learners is high
- . Effective learners accept the criticism positively.

Guiding Principles to make Teaching-Learning Effective and Productive

To make teaching and learning effective and productive, the following guiding principles concerning the nature of the learner must be taken into consideration:

- The teacher must regard the learner not as a passive recipient of the wisdom of the ages but as an active, thinking, feeling human being who needs to be stimulated, directed, and guided toward the realization of all his inherent potentialities, thereby becoming a worthy member of a democratic society. Educational aims and techniques must be geared to the ability, needs, and interests of the learner.
- The teacher must make the nature of the learner the basis of the science of teaching and the principles of learning. The learner’s original nature must be

made the starting point in his education. Teaching is effective when it is based on the psychology of learning, making the learner as the centre of educative process.

- The teacher must consider that the growth and development of the child is orderly and unified. He must work with the whole child, not just on his mental or emotional development alone. Growth is intellectual in nature as well as physical and emotional. Rather than mastery of subject-matter, emphasis must be made on child growth and development.
- The teacher must keep in mind that mental growth and development do not follow a similar pattern for all learners or students. The classroom teachers, supervisors, and administrators' must keep this fact in mind as they plan the courses of study, devise methods and techniques of instruction, and other instructional materials and devices.
- The teacher needs to understand the distinctive, growth patterns and developmental characteristics of each learner and their effect upon his behaviour. The teacher should be conscious of the fact that each pupil is the product of his own peculiar heredity and environment, and he must realize that pupils frequently respond in different ways to the same stimulus. Each learner must thus be provided for in special ways, not only as to single, immediate needs, but as to total future needs.
- The teacher must bear in mind that there is close relationship or high correlation between mental and physical growth as measured on the basis of chronological age. Growth is continuous in all areas of mental and physical activities. This fact must be taken into consideration in selecting and organizing educational activities and projects.
- The teacher must know the learner as an individual and as a member of the group. This understanding helps the teachers, supervisors, and administrators in planning and implementing growth programs, and in evaluating the outcomes. Some pupils can be stimulated to move along at a more rapid rate than others, since there are variations in all-around maturity from pupil to pupil.
- The teacher must utilize the innate tendencies as drives or powers for schoolwork and as stimuli to learning. Some innate tendencies can also be utilized to stimulate group activities and to establish a sound spirit of true sportsmanship and fair play.
- The teacher must utilize and direct the useful innate tendencies in such a way that they will produce activities that will lead to further activities. The teacher, likewise, must redirect or modify all tendencies to action which would result in undesirable activities.
- The teacher must select and organize the subject-matter, methods or procedures, stages of education, and means of guidance to anticipate the natural

growth and development of the inborn tendencies of the learner so that he may progress along desirable lines.

- The teacher must utilize the natural tendencies of the learner in developing or building new habits. Habit makes the process more effective in its results and thus it saves time. Habit is the basis of progress and a source of great economy in life.
- The teacher must consider the nature of the pupils in the formulation of ultimate and immediate aims of education. If the aim of education is to let the learner grow in terms of knowledge, abilities, habits, skills, and attitudes, his original nature should be the starting point in the endeavour to accomplish his growth.
- The teacher must bear in mind that the nature of the learner rather than the nature of subject-matter should determine the nature of teaching. Likewise, the type of teaching to be used is also determined by the type of learning involved. Different types of learning call for different methods of teaching.
- The teacher must consider that each pupil differs greatly within himself in his potentiality to learn. This psychological concept is based on the principle of trait differences. The teacher should not expect the learner to achieve equally in all school subjects and activities. Ability grouping as practiced in some schools is a violation of the principle of trait differences, unless such grouping is done separately for each subject.
- The teacher must keep in mind that the learner is endowed with the tendency to create; hence, capable of creativeness in his expression. All pupils possess creative ability, but to different degrees. Creativeness can be developed among the pupils if freedom is present in the classroom. Pupils can be creative if they are free from preconceived standards or criteria. The school curriculum must be so organized to encourage creativeness.

Self-Check Exercise - 1

Q. 1 Learning is best defined as a relatively permanent change in behaviour that _____.

a. is innate
b. occurs as a result of experience
c. is found only in humans
d. occurs by observing others

1.4 Characteristics of student with Learning Disabilities

Learning disability is a disorder that affects the manner in which individuals take in, express or retain information. It manifests as a deficit in one or more of the following areas: oral expression, auditory processing, written expression, reading decoding,

reading comprehension, or math calculations. Students with learning disabilities or attention deficit disorders may also experience difficulty with sustained attention, time management, social interactions and executive functions.

- Learning disabilities are cross -cultural.
- Learning disabilities are often inconsistent and may be more or less apparent given the demands of the environment.
- Learning disabilities are frustrating for both the student and the teacher.

Characteristics of Students with Learning Disabilities

1. There is a discrepancy between oral and written work.
2. The student generally works slowly in comparison to her/his peers.
3. The student is unable to sustain concentration.
4. The student has a poor ability to memorize.
5. The student has difficulty following directions, especially oral directions or directions of more than one step.
6. The student frequently asks for directions to be repeated.
7. The student has little confidence.
8. The student is self-conscious about her/his work.
9. The student may be able to explain things orally but not in writing.
10. The student has general co-ordination deficits.
11. Cognitive Disorders
12. The student has poor work habit.
13. Their lies difference in ability and performance of the student.
14. Socially Maladjustment.

Self-Check Exercise- 2

Q. 1 In learning disabilities, the name for mathematical disorder is:

a. Dyspraxia
b. Dyslexia
c. Dyscalculia
d. Dysphasia

1.5 Summary

Dear learners in this unit we discussed about nature of learning as a process, characteristics of effective learner and characteristics of students with learning disabilities.

1.6 Glossary

Behaviourism – observable and measurable aspects of human behaviour; A change in behaviour resulting in stimulus-response behaviours.

Cognitive Load– the amount of information that working memory can hold at one time.

1.7 Answers to Self-Check Exercises

Self-Check Exercise- 1

Answer 1: b

Self-Check Exercise- 2

Answer 1: d

1.8 References/Suggested Readings

Aggarwal J. C. (1996). Essentials of Educational Psychology, Vikas Publishing House Pvt. Ltd., New Delhi.

Mangal S. K. (1993). Advanced Educational Psychology Prentice Hall of India Pvt. Ltd., New Delhi.

Mathur S. S. (2001). Educational Psychology, Vinod Publications, Agra.

Chauhan, S.S. (2007). Advance Educational Psychology, Vikas Publishing House Pvt.Ltd., Noida.

Dandapani,S. (2010). Advance Educational Psychology. Anmol Publications Pvt. Ltd., New Delhi

Mangal, S.K. (2001).Psychology Foundation of Education.Prakash Brother Publication Ludhiyana.

Manivannan, M. (2010).Understanding Educational Psychology, Neelkamal Publications Pvt.Ltd. Hyderabad.

Lindgren H.C. (1980). Educational Psychology in the Classroom, New York: Oxford University Press.

Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.

Sarangapani M. Padma (2003). Constructing School Knowledge: An Ethnography of Learning in an Indian Village,New Delhi: Sage Publication.

Skinner C E, (1984). Educational Psychology New Delhi: Prentice Hall.

Vygotsky, L.S. (1978). *Mind in Society*, Cambridge: Harvard University Press.

Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

1.9 Terminal Questions

1. Describe concept of learning, nature of learner and guiding principles to make teaching-learning process effective.

Unit - 2

Concept and Nature of Learning as a Process, Learning Curve, Conditions of Learning - objective, subjective and methodological, Learning and Maturation, Learning as an outcome -Achievement and Performance

Structure

2.1 Introduction

2.2 Learning Objectives

2.3 Concept and Nature of Learning as a Process, Learning Curve,
Conditions of Learning - objective, subjective and methodological,
Learning and Maturation,Learning as an outcome - Achievement
and Performance

Self-Check Exercise - 1

2.4 Summary

2.5 Glossary

2.6 Answers to Self-Check Exercises

2.7 References/Suggested Readings

2.8 Terminal Questions

2.1 Introduction

Dear Learner, in this unit we will discuss concept and nature of learning as a process, learning curve, conditions of learning - objective, subjective and methodological, learning and maturation, learning as an outcome - achievement and performance in detail.

2.2 Learning Objectives

After completing this unit, you will be able to:

- describe concept of learning
- explain various learning curves

2.3 Concept and Nature of Learning as a Process, Learning Curve, Conditions of Learning - objective, subjective and methodological, Learning and Maturation, Learning as an outcome -Achievement and Performance

Concept and Nature of Learning as a Process

Learning is a key process in human behaviour. All living is learning. If we compare the simple, crude ways in which a child feels and behaves, with the complex modes of adult behaviour, his skills, habits, thought, sentiments and the like, we will know what difference learning has made to the individual. The individual is constantly interacting with and influenced by the environment. This experience makes him to change or modify his behaviour in order to deal effectively with it. Therefore, learning is a change in behaviour, influenced by previous behaviour. As stated above the skills, knowledge, habits, attitudes, interests and other personality characteristics are all the result of learning.

Learning is defined as “any relatively permanent change in behaviour that occurs as a result of practice and experience”. This definition has three important elements

- Learning is a change in behaviour—better or worse
- It is a change that takes place through practice or experience, but changes due to growth or maturation are not learning
- This change in behaviour must be relatively permanent, and it must last a fairly long time.

What activities are learned by the individual refer to types of learning. For example, habits, skills, facts, etc. Several and sometimes varying definitions have been given by different psychologists on the meaning of learning. These definitions however seem to converge on certain trends which highlight the characteristics of learning.

Myers, D.G. (1993) defined learning as a relatively permanent change in an organism’s behaviour due to experience.

Mukherjee (2002) gave the meaning of learning as an inference from some performance of the organism resulting in an enduring change of behaviour.

Hengenhann (1982) defined learning as a relatively permanent change in behavioural potentiality that occurs as a result of reinforced practice.

Learning refers to the change in a subject’s behaviour to a given situation brought about by his repeated experiences in that situation, provided that the behaviour change cannot be explained on the basis of native response tendencies, maturation or temporary states of the subject (e.g. fatigue, drugs, alcohol etc.). (Hilgard and Bower, 1975)

Webster Dictionary sums up common usage of the word LEARN as “to gain knowledge or understanding or skill by study, instruction, or experience.” The word “gain” in this definition is very important. It implies addition of new knowledge.

Gates and others “Learning is the modification of behaviour through experience”.

Crow and Crow “Learning is the acquisition of habits, knowledge and attitudes. It involves new ways of doing things, and it operates in an individual’s attempt to overcome obstacles or to adjust to new situations.”

Skinner “Learning is the process of progressive behaviour adaptation.”

M. L. Bigge “Learning may be considered as change in insights, behaviour, perception, motivation or a combination of these.”

From the above definitions, there are key elements that elucidate the nature and characteristics of learning. These are as under:

- Learning exhibits itself as a change in behaviour.
- Inference is made about learning by comparing the subject’s initial behaviour before he was placed in the “Learning Situation” and what behaviour exhibited after the treatment.
- The change may be an increased capability in performance, altered disposition in attitude, interest or value.
- This change must not be momentary, it must be relatively permanent. It should be retained over some period of time.
- Lastly, the change must be distinguishable from the kind of change that is attributed to growth, such as change in height or the development of muscles through exercise.

Nature of Learning

On the basis of above definitions the nature of learning can be listed as under:

- Learning is adaptation or adjustment: We all continuously interact with our environment. We often make adjustment and adapt to our social environment. Through a process of continuous learning, the individual prepares himself for necessary adjustment or adaptation. That is why learning is also described as a process of progressive adjustment to ever changing conditions, which one encounters.
- Learning is improvement: Learning is often considered as a process of improvement with practice or training. We learn many things, which help us to improve our performance.
- Learning is organizing experience: Learning is not mere addition of knowledge. It is the reorganization of experience.

- Learning brings behavioural changes: Whatever the direction of the changes may be, learning brings progressive changes in the behaviour of an individual. That is why he is able to adjust to changing situations.
- Learning is active: Learning does not take place without a purpose and self-activity. In any teaching learning process, the activity of the learner counts more than the activity of a teacher.
- Learning is goal directed: When the aim and purpose of learning is clear, an individual learns immediately. It is the purpose or goal, which determines what, the learner sees in the learning situations and how he acts. If there is no purpose or goal learning can hardly be seen.
- Learning is universal and continuous: All living creatures learn. Every moment the individual engages himself to learn more and more. Learning continues right from the birth of a child till the death.

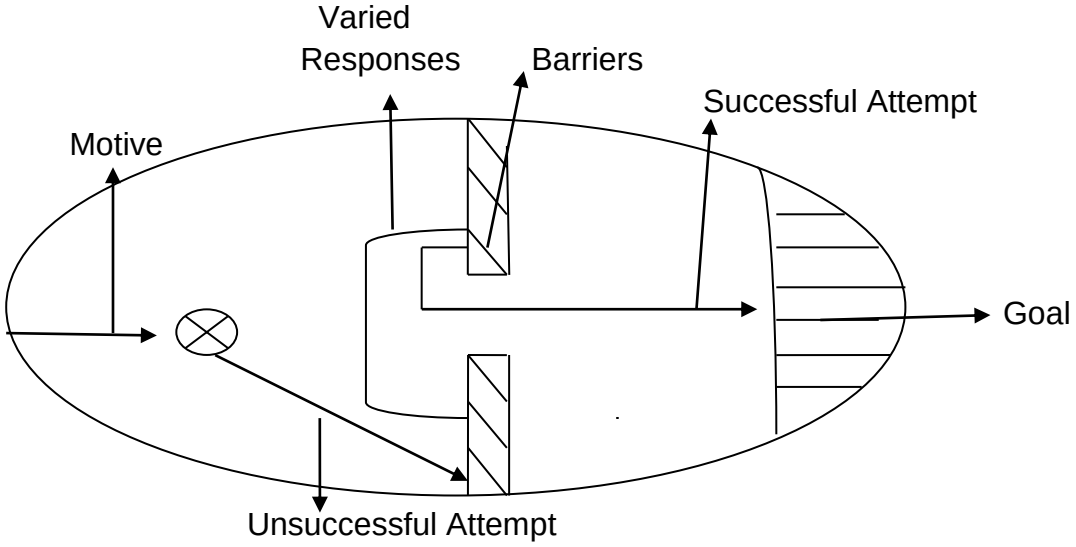
Concept of Learning as a Process

Learning process involves following steps:

a) **A Motive or a drive:** Motive is a dynamic force that compels an individual to act. When the motive or need is strong ,individual is forced to satisfy the need. It initiates the learner to learn something

b.) **Goal :** Every individual has to set a definite goal for achievement .If a definite goal is set then the learning becomes purposeful and interesting.

c.) **Barrier / Block**: The barrier is an important element in theprocessofLearning .It keeps the learner away from attaining the goal. These are important because if an individual faces no difficulty in attaining the goal, no change in behavior will occur. An individual gives varied responses to overcome these barriers.



Types of Learning

Learning has been classified in many ways.

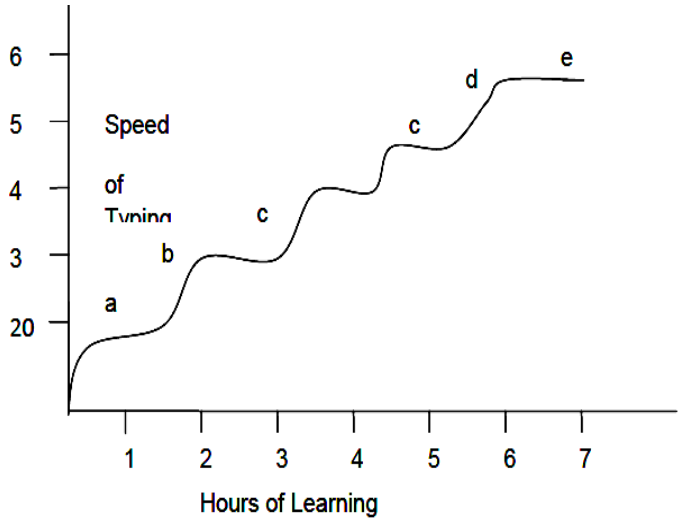
- Informal, formal and non-formal learning: Depending on the way of acquiring it learning may be informal, formal or non-formal. Informal learning is incidental. It takes place throughout life. It is not planned. Formal learning is intentional and organized. It takes place in formal educational institution. Non-formal is also intentional& organized. It is flexible
- Individual or Group learning: Learning is called either individual or group learning depending upon the number of individuals involved in the learning process.

Another classification involves the types of activity involved

- Motor learning: - When learning involves primarily the use of muscles it is called as motor learning. e.g.: learning to walk, to operate a typewriter.
- Discrimination learning: - Learning which involves the act of discrimination is called discrimination learning. e.g. infant discriminates between mother and aunt, milk and water.
- Verbal learning: - when learning involves the use of words it is called as verbal learning.
- Concept learning: - when learning involves the formation of concept it is called as concept learning.
- Sensory learning: - when learning is concerned with perception and senses it is sensory learning.

Learning Curve, Conditions of Learning - Objective, Subjective and Methodological

Learning curve is a graphic representation of how learning takes place in a particular situation. In all type of learning situations, the course of learning can be depicted and described graphically by drawing learning curves against x and y axis.



The above figure shows a typical learning curve of many types of learning. The curve consists of a number of irregularities, as the progress is not constant. For the convenience, the curve is divided into 5 stages – a, b, c, d and e.

(a) Period of slow progress: Generally, when a person has to start a learning of a given activity from a scratch, his early progress will be slow. E.g., an infant's progress in learning to walk is very negligible in the beginning.

(b) Period of rapid progress: In this stage, the learner's output raises rapidly. e.g. In typing once the learner has developed co-ordination of the movement of fingers he shows rapid progress.

(c) Period of no apparent progress: Learning curves frequently display a period of no apparent progress. It is also known as plateau. A period of no visible learning progress, preceded and followed by improvement is called as plateaus. E.g. In typing, a person may after having made rather consistent progress for some time, reach a point where perhaps for weeks no further progress is made

(d) Period of sudden rise: At the end of a plateau, there is generally a spurt in achievement. While on the plateau, the learner acquires better techniques, which help him later on to show rapid progress.

(e) Levelling: All learning will finally slowdown to such an extent that it will ultimately reach a period of no improvement. No one can continue to improve indefinitely in any given situation. The learning curve will eventually reach a limit, where no further improvement is possible. This limit is known as physiological limit.

Characteristics of Learning Curve

(i) Slow initial progress.

(ii) Spurt-like learning after some time.

(iii) Declination in the rate of learning.

(iv) Plateaus of learning.

(v) Sudden increase in learning.
(vi) Gradual levelling at the end.
(vii) Varies from learner to learner.
(viii) Varies from subject to subject.

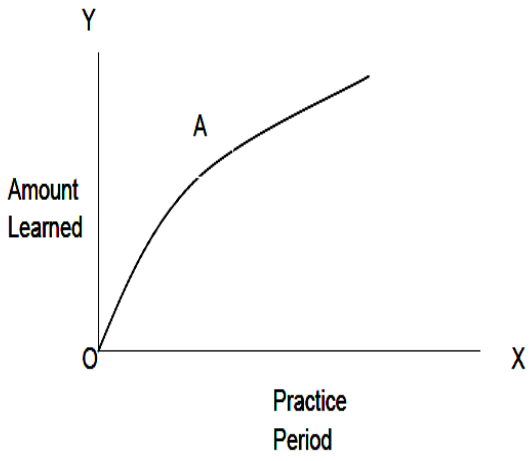
Types of Learning Curve

We get different types of learning curves depending upon –
(a) The nature of the learner
(b) The nature of the task/learning material
(c) Time available.
(d) Conditions under which the learning takes place.

It is difficult to classify these learning curves. However, three common types of curves are there,
(i) Negatively accelerated or the convex curve.
(ii) Positively accelerated learning curve or the concave curve.
(iii) Combination of convex-concave curve.

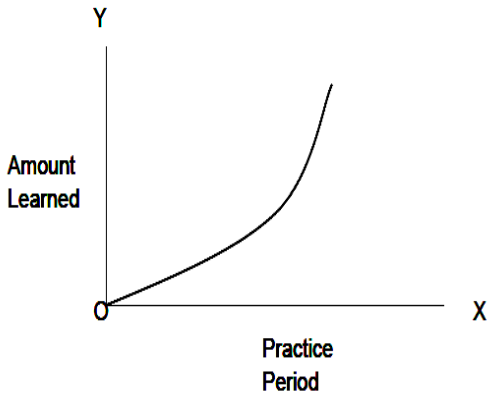
Convex curve

It depicts rapid initial improvement in learning that slows down with time. When the task is simple and the learner has previous practice on a similar task, we get this type of learning curve.



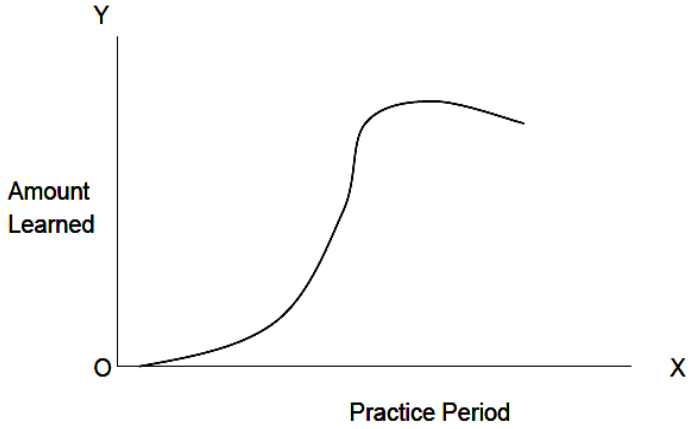
Concave curve

There is slow initial improvement and learning increases with time. When the task is difficult we get such type of learning curve.



Combination of convex concave curve

It looks like the capital letter 'S'. The curve takes concave or convex shape in the beginning depending upon the nature of the task.



In actual practical situations, such smooth curves are rarely found. Usually there are ups and downs (fluctuation).

Factors Affecting Learning Curve

1. Nature of the Learner.
2. Method of learning.
3. Learners ability to perform a task.
4. Time availability.
5. Previous experiences related to the task.
6. Conditions under which learning takes place.

Educational Importance of Learning Curve

1. In acquiring the basic skills in various subjects, the learner at times appears to show no progress. At such moments, the teacher can diagnose the reasons for the lack of progress.
2. A student's progress may be arrested because the work is too complex for him. The teacher can observe the student's work and detect the part that gives him trouble. The teacher should see if the student has developed any faulty study habits, which impede his progress.
3. The plateau may be due to the lack of motivation. The teacher should provide encouragement in order to maintain motivation at a high level.
4. The learning curves give a graphic evidence of one's progress, which is an effective motivational device for the learner.
5. Occurrence of plateaus can be minimized by using superior teaching methods.

Conditions of Learning

The conditions of Learning describe the circumstances under which the learning will occur.

1. Subjective Conditions of learning: These conditions are those which are based on the individuals own opinion .These varies from person to person:

i) Motivation
ii) Maturation
iii) Learner preferences
iv) Learning Styles.
v) Method of learning

2. **Objective Conditions of learning:** These conditions are those whichare free from personal opinions .These remains same for all.

i) Physical atmosphere.
ii) Reinforcement.
iii) Teaching Methods.
iv)Time Table .
v) Guidance
vi) Pupil Teacher Relationship

3.Methodological Conditions of learning: Methodology means way of learning.

i) Revision and Practice
ii) Linking the knowledge
iii) Evaluation
iv) Multisensory approach
v) Organisation of the Material

Learning and Maturation

Maturation: Maturation, a borrowed concept from Biology, refers to the physiological development of a growing person. Maturation is specifically used for qualitative changes in the organism which are not induced by learning. The relationship between maturation and learning is very close, because learning takes place within a certain level of maturation. Maturation, has been defined by Gleitman, H. (1996) as programmed growth process which is relatively unaffected by environmental condition. e.g. walking in human beings. For training to yield effective results, a defined level of maturation is required. For example, learning and training should start when a child reaches an appropriate level of maturation which implies concept of readiness for an activity. Teachers and parents must not ignore the child's level of maturation otherwise it would be a waste of time and effort to expect a child to perform a task or learn materials he/she is not matured enough to undertake.

Maturation is an important factor that affects our learning is defined as "growth that proceeds regularly within a wide range of environmental conditions." Maturation is growth that takes place regularly in an individual without special condition of stimulation such as training and practice. Learning is possible only when a certain stage of maturation is also reached. Exercise and training becomes fruitful only when a certain stage of maturation is attained. Maturation determines the readiness of the child for learning. Learning will be ineffective if the child has not attained the required level of maturity. There are individual differences in maturation. This means the rate of maturation varies with individuals. There are individual differences in the capacity to learn at the same age level. This is because of the difference of maturation level. Specific skills are learnt by children easily who mature earlier than others. The 3R's i e reading, writing and reckoning can be learnt only after the maturation of muscular and brain capacities. Rate of learning ability is closely related to the maturation of the cerebral cortex. Deterioration of cortical tissues in old age brings about declination in the learning ability. So it can be said that learning is not independent of maturation, but must be based upon a sufficient stage of growth.

Learning is possible only when a certain stage of maturation is reached. However much we practice a six month old child with walking exercises, the infant cannot walk. The muscles have not matured enough for the infant to learn to walk. This particular learning is possible only when the nerves & the muscles have attained a particular stage of maturity & development. Practice is most productive when properly articulated with maturational level. It is very essential for the teachers to know the maturational level of the pupil.

Learning as an Outcome -Achievement and Performance

The main goal of instruction in the classroom or in any field is, or at least should be, to equip the learner with the type of knowledge or skills that are durable (i.e., capable of sustaining long periods of disuse) and flexible (i.e., capable of being applied in different contexts). That is, the goal of instruction is to facilitate learning, which must be inferred at some point after instruction. Learning, however, must be distinguished from performance, which is what can be observed and measured during instruction or training. This important and seemingly paradoxical distinction between learning and performance dates back decades, spurred by early research that revealed that learning can occur even when no discernible changes in performance are observed. For example, latent learning researchers demonstrated that rats could learn a maze during periods of free exploration in which their behaviour was seemingly aimless (i.e., their performance was irregular). Similarly, findings in the overlearning literature suggested that considerable learning could occur well after performance during acquisition was at asymptote. In sum, this early research demonstrated that learning could occur without changes in performance. More recently, the converse has also been shown - specifically, that improvement in performance can fail to yield significant learning. In fact, numerous experiments in the domains of perceptual-motor learning and verbal-conceptual learning have shown certain manipulations - including distributing practice, varying the conditions of practice, reducing feedback, and testing/generation - to have opposite effects on learning and performance: Conditions that induce the most errors during acquisition are often the very conditions that lead to the most learning! Furthermore, that performance is often fleeting and, consequently, a highly imperfect index of learning does not appear to be appreciated by learners or instructors who frequently misinterpret short-term performance as a guide to long - term learning. These considerations, as well as others outlined in this article, suggest that the learning-performance distinction is critical and has implications abound, both practical and theoretical in nature.

Self-Check Exercise – 1

Q 1.Verbal Learning is:

a) Intentional

b) Incidental

c) Both a and b

d) Occupational

Q.2 If we track the proficiency achieved by the student for about six months who learns drawing, then the obtained learning curve is:

a) Positive Curve
b) 'S' type Curve
c) Bell shaped Curve
d) Negative Curve

2.4 Summary

Dear learners in this unit we discussed concept and nature of learning as a process, learning curve, conditions of learning - objective, subjective and methodological, learning and maturation, learning as an outcome - achievement and performance in detail.

2.5 Glossary

Imitative learning– where one person tries to imitate or copy another.

Instructed learning– which involves remembering the instructions of the teacher and then using these instructions to self-regulate.

2.6 Answers to Self-Check Exercises

Self-Check Exercise - 1

Answer Q.1: c

Answer Q.2: b

2.7 References/Suggested Readings

Aggarwal J. C. (1996). Essentials of Educational Psychology, Vikas Publishing House Pvt. Ltd., New Delhi.

Mangal S. K. (1993). Advanced Educational Psychology Prentice Hall of India Pvt. Ltd., New Delhi.

Mathur S. S. (2001). Educational Psychology, Vinod Publications, Agra.

Chauhan, S.S. (2007). Advance Educational Psychology, Vikas Publishing House Pvt.Ltd., Noida.

Dandapani,S. (2010). Advance Educational Psychology. Anmol Publications Pvt. Ltd., New Delhi

Mangal, S.K. (2001).Psychology Foundation of Education.Prakash Brother Publication Ludhiyana.

Manivannan, M. (2010).Understanding Educational Psychology, Neelkamal Publications Pvt.Ltd. Hyderabad.

Lindgren H.C. (1980). Educational Psychology in the Classroom, New York: Oxford University Press.

Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.

Sarangapani M. Padma (2003). Constructing School Knowledge: An Ethnography of Learning in an Indian Village,New Delhi: Sage Publication.

Skinner C E, (1984). Educational Psychology New Delhi: Prentice Hall.

Vygotsky, L.S. (1978). *Mind in Society*, Cambridge: Harvard University Press.

Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

2.8 Terminal Questions

1. Explain various learning curves.

Unit – 3

Gagne's Types of Learning, Events of Instruction, Learning Outcome

Structure

3.1 Introduction

3.2 Learning Objectives

3.3 Gagne's Types of Learning, Events of Instruction, Learning Outcome

Self-Check Exercise - 1

3.4 Summary

3.5 Glossary

3.6 Answers to Self-Check Exercises

3.7 References/Suggested Readings

3.8 Terminal Questions

3.1 Introduction

Dear Learners in this unit we will discuss the concept Gagne's Types of Learning, Events of Instruction, Learning Outcome in detail.

3.2 Learning Objectives

After completing this unit, you will be able to:

- Explain Gagne's type of learning, events of instruction, learning outcome

3.3 Gagne's Types of Learning, Events of Instruction, Learning Outcome

Gagne has attempted to classify learning into eight hierarchically ordered types:

1. **Signal Learning**: Signal learning refers to the Pavlovian or classical conditioning developed by the Russian physiologist, Ivan Pavlov. In this type of learning, food (unconditioned stimulus) and sound of a bell (conditioned stimulus) were paired and presented to a dog several times. The result was that when sound of the bell was heard even without the food, the dog salivated. This process is called conditioning.
2. **Stimulus-Response Learning:** Operant conditioning – Operant (or sometime called instrumental) conditioning was spearheaded by two American psychologists: E.L. Thorndike and B.F. Skinner. They both used animals to

conduct their experiments and attempted to apply the principles in human learning. Operant conditioning is more flexible than classical conditioning since the response conditioned are not restricted to natural or innate responses but to a variety of responses. This will also be discussed in greater detail in the subsequent unit.

3. **Chain Learning**: Chaining implies the connection of a set of individual stimulus response in sequence. There are two main types of chaining-motor and verbal. Verbal chaining entails connecting together in a sequence, two or more previously learned stimulus-response. Language is full of such chains of verbal sequence as for instance, mother and father. Motor chaining is through the sequences of motor responses like setting a clock or operating a generating set. Individual acts that have been previously acquired through S-R learning are combined in proper sequence repeatedly.
4. **Verbal Association Learning**: The ability of humans to vocalize especially in social situations is well acknowledged. Verbal chaining is illustrated in naming. Two chains are involved in this: (a) observing the stimulus-response (S-R) connection that connects the appearance of the object and distinguishes it from other objects; and (b) the S-R connection that stimulates the child itself to the name of the object.
5. **Multiple Discrimination**: Discrimination refers to reinforcing selectively, some responses, to one aspect of the environment. The behaviour may then show a specificity of response to only one given stimulus. Discrimination involves higher mental processes. It is the basis upon which we learn to think and solve problems. Children learn to differentiate certain objects in the environment such as infants distinguishing the feeding bottle from ordinary bottles.
6. **Concept Learning**: Children and all growing persons learn to classify objects on the basis of some common characteristics of say, colour, size, height, shape, etc. For example, children would gradually differentiate animals from trees, dog from sheep or books from table. They also learn to make generalization, within classes of objects and discrimination between classes of objects.
7. **Learning of Principles**: Children's learning of principles is gradual and is usually dependent on learning of concept formation and other forms of learning. Principles involve regular interaction among two or more concepts and this is essential for every person to function effectively in the environment. Principles of spoken language, moral code, and psychomotor skills are learned to help the individual function more effectively.
8. **Problem Solving**: Gagne places problem solving at the highest stage of his hierarchy of the learning process.

Self-Check Exercise - 1

1. Asking students about their knowledge of planets before teaching a unit about the solar system would be an example of:
   a) Stimulate recall of prior learning
   b) Gain attention
   c) Assess performance
   d) None of the above
2. Which of Gagne's Nine Events of Instruction would come before an individualized formal assessment?
   a) Provide feedback
   b) Assess performance
   c) Enhance retention and transfer
   d) Present the content

3.4 Summary

Dear learners in this unit we discussed about Gagne's types of learning in detail.

3.5 Glossary

Gain Attention: This event aims to capture the learners' attention and engage them in the learning process. It can be achieved through the use of stimulating and relevant stimuli or by posing questions or problems.

Stimulate Recall of Prior Knowledge: Activating learners' prior knowledge helps them connect new information to existing mental frameworks. By reviewing relevant concepts or experiences, learners can build upon what they already know.

3.6 Answers to Self-Check Exercises

Self-Check Exercise – 1

Answer 1: a

Answer 2: a

3.7 References/Suggested Readings

Aggarwal J. C. (1996). Essentials of Educational Psychology, Vikas Publishing House Pvt. Ltd., New Delhi.

Mangal S. K. (1993). Advanced Educational Psychology Prentice Hall of India Pvt. Ltd., New Delhi.

Mathur S. S. (2001). Educational Psychology, Vinod Publications, Agra.

Chauhan, S.S. (2007). Advance Educational Psychology, Vikas Publishing House Pvt.Ltd., Noida.

Dandapani,S. (2010). Advance Educational Psychology. Anmol Publications Pvt. Ltd., New Delhi

Mangal, S.K. (2001).Psychology Foundation of Education.Prakash Brother Publication Ludhiyana.

Manivannan, M. (2010).Understanding Educational Psychology, Neelkamal Publications Pvt.Ltd. Hyderabad.

Lindgren H.C. (1980). Educational Psychology in the Classroom, New York: Oxford University Press.

Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.

Sarangapani M. Padma (2003). Constructing School Knowledge: An Ethnography of Learning in an Indian Village,New Delhi: Sage Publication.

Skinner C E, (1984). Educational Psychology New Delhi: Prentice Hall.

Vygotsky, L.S. (1978). *Mind in Society*, Cambridge: Harvard University Press.

Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

3.8 Terminal Questions

1. Explain Gagne's type of learning

Unit – 4

Memory - Concept, Types and Strategies to develop Memory; Forgetting - Nature, Theories (Interference Theory, Trace Change Theory, Forgetting as Retrieval Failure), Factors and Strategies to Minimize Forgetting

Structure

4.1 Introduction

4.2 Learning Objectives

4.3 Memory - Concept, Types and Strategies to develop Memory; Forgetting - Nature, Theories (Interference Theory, Trace Change Theory, Forgetting as Retrieval Failure), Factors and Strategies to Minimize Forgetting

Self-Check Exercise - 1

4.4 Summary

4.5 Glossary

4.6 Answers to Self-Check Exercises

4.7 References/Suggested Readings

4.8 Terminal Questions

4.1 Introduction

Dear Learners in this unit we will discuss Memory, Types and Strategies to develop Memory; Forgetting - Nature, Theories (Interference Theory, Trace Change Theory, Forgetting as Retrieval Failure), Factors and Strategies to Minimize Forgettingin detail.

4.2 Learning Objectives

After completing this unit, you will be able to:

- describe concept, types and strategies to develop memory
- describe various theories of forgetting

4.3 Memory - Concept, Types and Strategies to develop Memory; Forgetting - Nature, Theories (Interference Theory, Trace Change Theory, Forgetting as Retrieval Failure), Factors and Strategies to Minimize ForgettingConcept, Types and Strategies to develop Memory

There is a two-way relationship between learning and memory. If information acquired from learning is not stored in the memory, it will be lost and so we would be unable to recall it. On the other hand, the information we have already stored in our memory, influences our new learning. To be effective, a teacher must acquaint himself with the way memory works. He must find out why children forget and be able to prevent it. He must consciously teach to promote effective storage of the material learnt by the students. This unit will therefore describe how memory works, the major reasons why we forget and the implications of these for learning and teaching. Memory is at the centre of human living, progress and activities. Without memory, we cannot remember; we cannot think; we cannot learn; and we cannot solve problems. We would not be able to know danger and run away from it. We would not be able to invent Science and Technology. We would be completely blank. It would then mean that the individual would be experiencing afresh the same thing over and over again. It would be like trying to fill a bottomless pit. But with memory, we are able to store away useful information and recall them when needed. We can think and solve problems. We are able to learn, store what we have learnt and recall it for use whenever necessary. Memory and learning cannot be separated because memory is the reservoir of our accumulated learning. It is therefore catastrophic for one to lose his memory i.e. loose all that he has learnt including his language and even his name. In psychological literature, memory is our ability to store and retrieve information. It is very important for the survival of the human species for without it, no one would retrieve any previously learned information. People think and reason using remembered facts-and can only deal with the concept of time-past, present and future with the aid of memory.

According to Stout: “Memory can be defined as an Ideal revival i.e. to revive the things, objects in same order and form.”

Characteristics of Memory

- Ideal revival
- Learning ability
- Learning activities
- Complex process
- Constructive
- Experiences in consciousness.
- Mental power

Types of Memory

- Short Term Memory (STM) is where the information received, processed and retained only for a short while. Short term memory is of a limited capacity and therefore cannot store information for a long time.

- Long Term Memory (LTM) on the other hand is not only unlimited in capacity but also capable of retaining all the experiences a person had during his life time. Information in long term memory may not be forgotten easily.

Strategies to develop Memory

GULP is an acronym for an effective four step process to improve short and long term memory. GULP means **"Get it, Use it, Link it, Picture it".**

Step 1: G - Get It

- The true art of memory is the art of attention
- Be present and conscious during the initial learning
- Pay attention, listen and Experience the initial learning with as many senses as possible

Step 2: U - Use It

- Review material immediately and repeat it
- Write it down and sing or chant it
- Recreate the experience of the learning

Step 3: L - Link It

- Associate new learning with something already known
- Link it to something it sounds like (acoustical link) and link it to a location
- Make an acronym link and mind map it
- Rhyme it, group it, categorize it and alphabetize it

Step 4: P - Picture It

- Create a visual image of the association, use colour, make it move and vivid
- Make it bizarre and exaggerate it
- Use all senses - seeing, hearing, tasting, smelling association and linking techniques

Nature, Theories of Forgetting (Interference Theory, Trace Change Theory, Forgetting as Retrieval Failure)

It is not possible to remember everything that a person learns since his birth. So a person selects certain things to remember and forgets others in order of priority. But after a time gap, it is observed, that many things are 'forgotten'. Forgetting is the process of fading of some impressions from the mind, or in simpler words, inability to

remember is forgetting. It can, therefore, be said that to remember, forgetting is necessary. The depth of impression of an object or idea depends on the learner's understanding of the subject matter. If proper understanding of the learnt material occurs, it is retained in the mind for a longer period of time and can be recalled easily; but on the other hand, half-learned material and just a cramming of the subject matter results in forgetting. Famous psychologist Sigmund Freud said that sometimes forgetting unpleasant or painful experiences is helpful in remembering the useful and pleasant impressions.

Definitions of Forgetting

Adams said, "True learning is judicious forgetting".

Nunn, "Forgetting is failing to retain or able to recall what has been acquired."

James Drever, "Forgetting means failure at any time to recall an experience when attempting to do so, or to perform an action previously learned."

Nature/Characteristics of Forgetting

The process of forgetting has the following characteristics:

- It is the inability of retaining an impression in the mind.
- Like memory, forgetting is also a mental process
- When there is memory, there is bound to be forgetting.
- Forgetting usually occurs in the initial stage of a learning process. Once understanding of the subject matter develops, forgetting decreases.
- Forgetting is both spontaneous as well as gradual process.
- Forgetting is passive and negative activity.

Causes of Forgetting: After a lot of research, different psychologists have pointed out different causes of forgetting. They are briefly discussed below:

- Lack of Interest: One usually forgets about those objects or idea in which he has no interest. Sometimes one remembers something for a long time but eventually if he loses interest in it, he forgets it. Therefore a teacher should try to generate interest in the students while teaching in the classroom so that they remember the subject matter well.
- Old Age: An old man forgets more easily than a younger one. This is mainly because of physical and nervous weakness. With age, body cells and organs degenerate and they affect the motor abilities as well as the mental processes like memory.
- Brain Injury: Serious brain injury especially of the cerebrum area definitely affects the power to memorize. The cerebrum of the brain determines complex mental

functions like thinking, learning, memorizing, imagination etc. If this part is injured them memorization becomes difficult.

- Lapse of Time: Forgetting occurs with lapse of time. Impressions created in the mind as a result of learning fade away with the passage of time.
- Lack of Practice: When the learnt material is not practiced frequently, then forgetting occurs. A well-organized material is easily remembered and can be practiced frequently. A teacher should carefully organize the subject matter and encourage the students to practice so often that they can remember it well.
- Repression: Repression is the process of deliberately trying to forget unpleasant experiences and pushing them into the depth of the mind. However too much repression is not beneficial for the individual as these may find expression in undesirable manner.
- Use of Drugs and Alcohol: Addiction to intoxicating drugs or alcohol has a detrimental effect on our nervous system and this seriously hampers memory.

Theories of Forgetting

Psychologists have made attempts to study or understand why we forget certain body of information or skill after a while. A number of explanations are often given on the causes and process of forgetting and how these may affect learning or what may have been learnt. These theories are:

i) **Interference Theory of Effect:** Interference theory describes how some old learning may interfere with or inhibit the leaning of a new thing. This is called proactive inhibition. On the other hand, a new learning may interfere with or inhibit access to an old learning. This is known as retroactive inhibition

ii) **Trace Decay Theory:** - Trace decay theory explains memories that are stored in both short term and long term memory system, and assumes that the memories leave a trace in the brain. According to this theory, short term memory (STM) can only retain information for a limited amount of time, around 15 to 30 seconds unless it is rehearsed. If it is not rehearsed, the information will start to gradually fade away and decay. This is a result of memory trace fading away. Memory trace is a mark of representation of an experience stored in one's brain. It assumes some kind of change in the physiology of the brain as a result of learning. Due to time passage and infrequent use of memory traces, the normal metabolic processes of the brain bring about the decay or fading of the memory traces of certain information. The traces of information would then slowly disintegrate and become extinct.

iii) **Forgetting as Retrieval Failure or Cue-dependent forgetting:** Cue-dependent forgetting or retrieval failure is the failure to recall a memory due to missing stimuli or cues that were present at the time the memory was encoded. Encoding is the first step in creating and remembering a

memory. How well something has been encoded in the memory can be measured by completing specific tests of retrieval. Examples of these tests would be explicit ones like cued recall or implicit tests like word fragment completion. This theory states that a memory is sometimes temporarily forgotten purely because it cannot be retrieved, but the proper cue can bring it to mind. Depending on the age of a person, retrieval cues and skills may not work as well. This is usually common in older adults but that is not always the case. When information is encoded into the memory and retrieved with a technique called spaced retrieval, this helps older adults retrieve the events stored in the memory better.

Strategies to Minimize Forgetting

With the help of following technique forgetting can be minimized. GULP is an acronym for an effective four step process to improve short and long term memory. GULP means **"Get it, Use it, Link it, Picture it".**

Step 1: G - Get It

- The true art of memory is the art of attention
- Be present and conscious during the initial learning
- Pay attention, listen and Experience the initial learning with as many senses as possible

Step 2: U - Use It

- Review material immediately and repeat it
- Write it down and sing or chant it
- Recreate the experience of the learning

Step 3: L - Link It

- Associate new learning with something already known
- Link it to something it sounds like (acoustical link) and link it to a location
- Make an acronym link and mind map it
- Rhyme it, group it, categorize it and alphabetize it

Step 4: P - Picture It

- Create a visual image of the association, use colour, make it move and vivid
- Make it bizarre and exaggerate it

- Use all senses - seeing, hearing, tasting, smelling association and linking techniques

Self-Check Exercise – 1

Q. 1. Which of the following types of long term memory deals with individuals personal experiences?

a) Semantic Memory

b) Episodic Memory

c) Procedural Memory

d) None of the above

Q. 2. The first level of incoming information for memory is:

a) Perception

b) Meaning

c) Environment

d) Knowledge

Q. 3. According to which of the following theory, we forget the things, we do not want to remember by pressing them in our unconscious mind?

a) Theory of Interference

b) The Repression theory

c) The Trace Decay Theory

d) None of the above

4.4 Summary

Dear learners in this unit we discussed about concept of memory forgetting and various theories of forgetting in detail.

4.5 Glossary

Mnemonics: Techniques used to improve memory.

Retrieval: The recall of stored memories.

4.6 Answers to Self-Check Exercise

Self-Check Exercise – 1

Answer 1: b

Answer 2: a

Answer 3: c

4.7 References/Suggested Readings

Aggarwal J. C. (1996). Essentials of Educational Psychology, Vikas Publishing House Pvt. Ltd., New Delhi.

Mangal S. K. (1993). Advanced Educational Psychology Prentice Hall of India Pvt. Ltd., New Delhi.

Mathur S. S. (2001). Educational Psychology, Vinod Publications, Agra.

Chauhan, S.S. (2007). Advance Educational Psychology, Vikas Publishing House Pvt.Ltd., Noida.

Dandapani,S. (2010). Advance Educational Psychology. Anmol Publications Pvt. Ltd., New Delhi

Mangal, S.K. (2001).Psychology Foundation of Education.Prakash Brother Publication Ludhiyana.

Manivannan, M. (2010).Understanding Educational Psychology, Neelkamal Publications Pvt.Ltd. Hyderabad.

Lindgren H.C. (1980). Educational Psychology in the Classroom, New York: Oxford University Press.

Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.

Sarangapani M. Padma (2003). Constructing School Knowledge: An Ethnography of Learning in an Indian Village,New Delhi: Sage Publication.

Skinner C E, (1984). Educational Psychology New Delhi: Prentice Hall.

Vygotsky, L.S. (1978). *Mind in Society*, Cambridge: Harvard University Press.

Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

4.8 Terminal Questions

1. Describe concept, types and strategies to develop Memory.
2. Describe various theories of forgetting.

Unit - 5

Meaning, Types and Levels of Concept Development, Strategies for Concept Learning

Structure

5.1 Introduction

5.2 Learning Objectives

5.3 Meaning, Types and Levels of Concept Development and strategies for concept learning

Self-Check Exercise - 1

5.4 Summary

5.5 Glossary

5.6 Answers to Self-Check Exercise

5.7 References/Suggested Readings

5.8 Terminal Questions

5.1 Introduction

Dear learner, this unit deals the meaning and concept of development, strategies for concept learning.

5.2 Learning Objectives

After completing this unit, you will be able to:

- discuss the meaning, types and levels of concept development.
- list the strategies for concept learning.

5.3 Meaning, Types and Levels of Concept Development and strategies for concept learning

A concept is a mental representation, image or idea of tangible and concrete objects (e.g. chair, dog) and intangible ideas and feelings (colour, emotions). Psychologists use the term concept formation, or concept learning, to refer to the development of the ability to respond to common features of categories of objects or events. Concepts are mental categories for objects, events, or ideas that have a common set of features. Concepts allow us to classify objects and events. In learning a concept, you must focus on the relevant features and ignore those that are irrelevant (Bourne & colleagues,

1986). For instance, paperbacks and hardcover editions are all books. But you must also discriminate on the basis of relevant features: a stack of papers is not a book. What is the crucial feature of a book? Usually it is the presence of a binding. Most concepts, however, cannot be identified on the basis of a single critical feature. Most of the words we use refer to concepts and not to particular things. Proper nouns such as “Shimla” and “Summer Hill” are exceptions. In learning some of their first concepts, children commonly focus not on names but on the functions of objects. For example, a spoon is something to eat with, and a pan is something to cook in. Other early concepts are based on groupings of objects that are similar in some respect: liquid things, moving things, or soft things. Several theories have been proposed to explain how we learn concepts. The stimulus-response association theory was proposed by Clark Hull (1920). He argued that we learn to associate a particular response (the concept) with a variety of stimuli that define the concept. For instance, we associate the concept “dog” with all of the characteristics of dogs (four legs, fur, tail, and so on) and are able to generalize the concept to unfamiliar dogs. Eleanor Rosch (1978) suggested that the natural concepts in everyday life are learned through examples rather than abstract rules. Her exemplar theory proposes that we learn the concept of “dog” by seeing a wide variety of dogs and developing a prototype of what the typical dog is like. Consider the concept “job.” To one person it may mean an unpleasant task, while to another it is a means of achieving fulfilment. Concept formation is a form of thinking that helps us to better understand the world we live in, as well as ourselves.

Types of Concepts

Three types of concepts are differentiated: Conjunctive, rational and disjunctive. Conjunctive concepts are defined by the presence of at least two features, which means that a conjunctive concept is a class of objects that have two or more common features. Rational concept is defined by the relationship between the features of an object or between an object and its surroundings. This means that rational concepts are based on how an object relates to something else, or how its features relate to one another. Disjunctive concepts are either/or: they have at least one of several possible features. Disjunctive concepts are defined by the presence of at least one of several possible features.

Strategies/Methods for Concept Learning

The methods or strategies for concept learning are as under:

Examples - Supervised or unsupervised generalizing from examples may lead to learning a new concept, but concept formation is more than generalizing from examples.

Discovery - Every baby discovers concepts for itself, such as discovering that each of its fingers can be individually controlled or that care givers are individuals. Although this is perception driven, formation of the concept is more than memorizing perceptions.

Words - Hearing or reading new words leads to learning new concepts, but forming a new concept is more than learning a dictionary definition. A person may have previously formed a new concept before encountering the word or phrase for it.

Exemplars comparison and contrast - An efficient way to learn new categories and to induce new categorization rules is by comparing a few example objects while being informed about their categorical relation. Comparing two exemplars while being informed that the two are from the same category allows identifying the attributes shared by the category members , as it exemplifies variability within this category. On the other hand, contrasting two exemplars while being informed that the two are from different categories may allow identifying attributes with diagnostic value. Within category comparison and between categories contrast are not similarly useful for category learning (Hammer et al., 2008), and the capacity to use these two forms of comparison-based learning changes at childhood (Hammer et al., 2009).

Invention - When prehistoric people who lacked tools used their fingernails to scrape food from killed animals or smashed melons, they noticed that a broken stone sometimes had a sharp edge like a fingernail and was therefore suitable for scraping food. Inventing a stone tool to avoid broken fingernails was a new concept.

Self-Check Exercise - 1

Q.1. What isConjunctive concept?

5.4 Summary

Dear learner, in this unit we have gone through concept of development and strategies for concept learning.

5.5 Glossary

Agentic- a person’s ability to control their actions.

Modelling- when a person observes another person’s behaviour and then imitates that behaviour.

5.6 Answers to Self-Check Exercises

Self-Check Exercise - 1

Answer: Conjunctive concepts are defined by the presence of at least two features, which means that a conjunctive concept is a class of objects that have two or more common features.

5.7 References/Suggested Readings

Bandura, A. (1977). Social Learning Theory. New York: General Learning Press.
Bandura, A. (1973). Aggression: A Social Learning Analysis. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1986). Social Foundations of Thought and Action. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W.H. Freeman.
Chauhan S.S. (1995) Advanced Educational Psychology, New Delhi: Vikas Publishing House Pvt. Ltd.
Dandapani S. (2005). Advanced Educational Psychology, New Delhi: Anmol Publications
Lindgren H.C. (1980) 'Educational Psychology in the Classroom, New York: Oxford University Press.
Mangal S.K. 2005) Advanced Educational Psychology, New Delhi. Prentice Hall of India,
Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.
Skinner C E, (1984) Educational Psychology New Delhi: Prentice Hall.
Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

5.8 Terminal Questions

1. Discuss the meaning, types and levels of concept development.
2. List the strategies for concept learning.

Unit - 6

Non-associative Learning- Habituation and Sensitization, Learning through Association –Classical Conditioning, Learning through Consequences – Operant Conditioning, Learning through Trial and Error, Learning through Observation – Modeling/Observational Learning, Learning through Insight – Discovery Learning and their Educational Implications

Structure

6.1 Introduction

6.2 Learning Objectives

6.3 Non-associative Learning- Habituation and Sensitization

Self-Check Exercise - 1

6.4 Learning through Association – Classical Conditioning

Self-Check Exercise - 2

6.5 Learning through Consequences – Operant Conditioning

Self-Check Exercise - 3

6.6 Learning through Trial and Error

Self-Check Exercise - 4

6.7 Learning through Observation – Modeling/Observational Learning

Self-Check Exercise - 5

6.8 Learning through Insight – Discovery Learning

Self-Check Exercise - 6

6.9 Summary

6.10 Glossary

6.11 Answers to Self-Check Exercises

6.12 References/Suggested Readings

6.13 Terminal Questions

6.1 Introduction

Dear learner, this unit deals the concept of Non-associative Learning- Habituation and Sensitization, Learning through Association – Classical Conditioning and its Educational Implications, Learning through Consequences – Operant Conditioning and its Educational Implications, Learning through Trial and Error, Learning through

Observation – Modelling/Observational Learning, Learning through Insight – Discovery Learning and their Educational Implications.

6.2 Learning Objectives

After completing this unit, you will be able to:

- explain the concept of non-associative learning- habituation and sensitization.
- describe learning through association (Classical Conditioning) and its educational implications.
- explain learning through consequences (Operant Conditioning) and its educational implications.
- discuss Learning through Trial and Error theory and its educational implications.
- explain Learning through Observation – Modelling/Observational Learning and its educational implications.
- discuss Learning through Insight – Discovery Learning theory and their Educational Implications and its educational implications.

6.3 Non-associative Learning- Habituation and Sensitization

Non-associative learning refers to “a relatively permanent change in the strength of response to a single stimulus due to repeated exposure to that stimulus”. Changes due to such factors as sensory adaptation, fatigue, or injury do not qualify as Non-associative learning. Non-associative learning can be divided into Habituation and Sensitization. **Habituation** is an example of non-associative learning in which the strength or probability of a response diminishes when the response is repeated. The response is typically a reflex or unconditioned response. Thus, habituation is to be distinguished from extinction, which is an associative process. In operant extinction, for example, a response declines because it is no longer followed by reward. An example of habituation can be seen in small song birds—if a stuffed owl (or similar predator) is put into the cage, the birds initially react to it as though it were a real predator. Soon the birds react less, showing habituation. If another stuffed owl is introduced (or the same one removed and re-introduced), the birds react to it again as though it were a predator, demonstrating that it is only a very specific stimulus that is habituated to (namely, one particular unmoving owl in one place). Habituation has been shown in essentially every species of animal, as well as the sensitive plant Mimosa pudica and large protozoan Stentorcoeruleus. **Sensitization -** Sensitization is an example of non-associative learning in which the progressive amplification of a response follows repeated administrations of a stimulus. An everyday example of this mechanism is the repeated tonic stimulation of peripheral nerves that will occur if a person rubs his arm continuously. After a while, this stimulation will create a warm sensation that will eventually turn painful. The pain is the result of the progressively amplified synaptic response of the peripheral nerves warning the person that the stimulation is harmful.

Sensitization is thought to underlie both adaptive as well as maladaptive learning processes in the organism.

Self-Check Exercise – 1

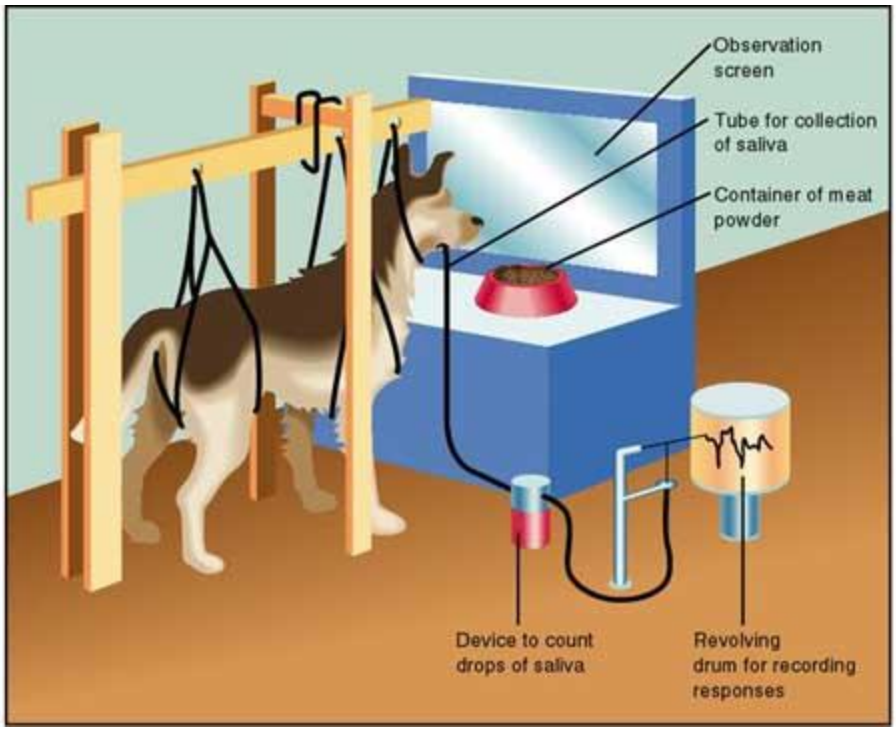
Q. 1. A decrease in the strength or occurrence of a behaviour after repeated exposure to the stimulus that produces the behaviour is called:
a) sensitization.
b) habituation.
c) perceptual learning.
d) priming.

Q. 2.Since her grandmother's recent illness, Sarah has a heightened awareness of her family's health, and gets overly worried anytime a family member appears the least bit unwell. This is an example of:
a) habituation.
b) sensitization.
c) dishabituation.
d) priming.

6.4 Learning through Association – Classical Conditioning

Pavlov (1902) started from the idea that there are some things that a dog does not need to learn. For example, dogs don't learn to salivate whenever they see food. This reflex is 'hard wired' into the dog. In behaviourist terms, it is an unconditioned response (i.e. a stimulus-response connection that required no learning). In behaviourist terms, we write:
Unconditioned Stimulus (Food) > **Unconditioned Response** (Salivate)

Pavlov showed the existence of the unconditioned response by presenting a dog with a bowl of food and the measuring its salivary secretions.



However, when Pavlov discovered that any object or event which the dogs learnt to associate with food would trigger the same response. Pavlov knew that somehow, the dogs in his lab had learned to associate food with his lab assistant. This must have been learned, because at one point the dogs did not do it, and there came a point where they started, so their behaviour had changed. A change in behaviour of this type must be the result of learning. In his experiment, Pavlov used a bell as his neutral stimulus. Whenever he gave food to his dogs, he also rang a bell. After a number of repeats of this procedure, he tried the bell on its own. As you might expect, the bell on its own now caused an increase in salivation. So the dog had learned an association between the bell and the food and a new behaviour had been learnt. Because this response was learned (or conditioned), it is called a conditioned response. The neutral stimulus has become a conditioned stimulus. Pavlov found that for associations to be made, the two stimuli had to be presented close together in time. He called this the law of temporal contiguity. If the time between the conditioned stimulus (bell) and unconditioned stimulus (food) is too great, then learning will not occur. The procedure that produces classical conditioning: pairing of CS and US.

Graphical representation to the experiment conducted by the Pavlov

Step 1 US ⟶ UR
(Food) (Saliva)

Step 2 CS ⟶ No Response
(Sound of Bell)

Step 3 CS + US ⟶ UR

Step 4 On several repetition of step 3

CS (Sound of Bell) ⟶ CR (Saliva)

Some Phenomena of Classical Conditioning

1. Relationship between CS and UCS

   (i) CS ---------- **"Simultaneous Conditioning"**

   US ----------

   (ii) CS ---------- **"Delay Conditioning" (Best Conditioning)**

   US -------

   (iii) CS ------ **"Trace Conditioning"**

   US -------

   (iv) CS ------- "**Backward Conditioning**" **(**works poorly)

   US --------

2. Intensity of Stimuli: The response depends on the strength of the stimuli.
3. Extinction: refers to the fact, that, if the conditioned and unconditioned stimuli are not paired for a given number of trials an organism will stop exhibiting the conditioned response.
4. Spontaneous Recovery: This is the re-occurrence of a classically conditioned response after extinction has occurred.
5. Inhibition: It is of two types internal and external.
6. Generalization: This is the case where stimuli that are like the conditioned stimulus come to elicit the same response.

Educational Implications

Following are the some of the educational implications of the theory:

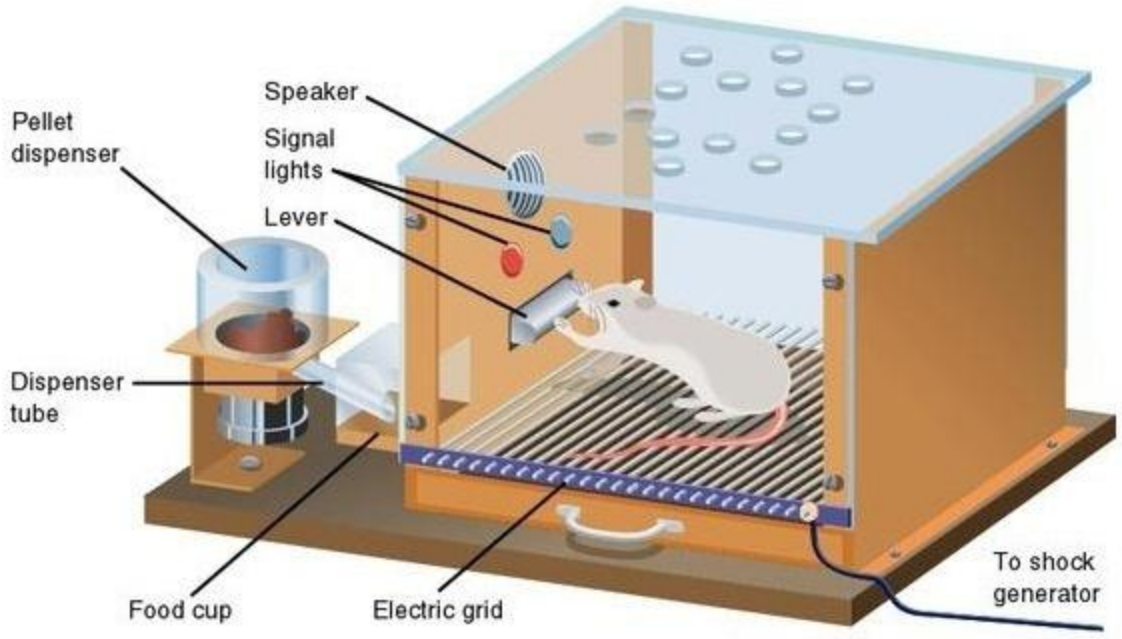
- To teach alphabets to children and train animals. Avoid classically conditioned negative emotions. Anticipate situations where negative emotions might be learned through classical conditioning.
- Link learning with positive emotions. Arrange repeated pairing of positive feelings with certain kinds of learning, especially subjects that are anxiety provoking.
- Teach students to generalize and discriminate appropriately. Poor performance on one assignment or test does not mean that the student is a poor performer.
- Help students cope with classically conditioned anxiety. Help students learn to relax when facing anxiety provoking situations.

Self-Check Exercise – 2

Q.1 People who have a lot of dental problems often come to dislike even the smell of theirdentist's office. The smell represents a(n):
a. US
b. UR
c. CS
d. CR

6.5 Learning through Consequences – Operant Conditioning

Skinner is regarded as the father of Operant Conditioning, but his work was based on Thorndike's law of effect. Skinner introduced a new term into the Law of Effect - Reinforcement. Behaviour which is reinforced tends to be repeated (i.e. strengthened); behaviour which is not reinforced tends to die out-or be extinguished (i.e. weakened). Skinner (1948) studied operant conditioning by conducting experiments using animals which he placed in a '*Skinner Box*' which was similar to Thorndike's puzzle box.



B.F. Skinner (1938) coined the term operant conditioning; it means roughly changing of behaviour by the use of reinforcement which is given after the desired response. Skinner identified three types of responses or operant that can follow behaviour.

Neutral operants: responses from the environment that neither increase nor decrease the probability of a behaviour being repeated.

Reinforcers: Responses from the environment that increase the probability of a behaviour being repeated. Reinforcers can be either positive or negative.

Punishers: Responses from the environment that decrease the likelihood of a behaviour being repeated. Punishment weakens behaviour.

Skinner based his theory on the experiments he conducted while working with animals and birds, like rats and pigeons. He developed a cage, what was came to be known as the “Skinner’s Box.” The cage had a mechanism which facilitated the learning process; the cage had levers and keys; it also had a bar or a pedal on one of its walls, and that when pressed, caused the mechanism to release food into the cage. The rats moved across the cage; and suddenly, accidentally they would press the bar, and the food was released. The rat began to understand a connection between his movement and the food; and gradually, learnt to press the bar or pedal the right key that gave him the food. Skinner repeated these experiments with pigeons; as and when they picked the right key, food was released. The food acted as a reward, where the rats and pigeons were “rewarded” for choosing an appropriate behaviour, and their behaviour was positively reinforced. Over time, Skinner decided to withdraw the food; while the rats and pigeons

made the right movements, food was no longer released and the creatures were disappointed. After several attempts with unrewarding consequences, they stopped pressing the right bars and pedals. This was referred to as extinction. Skinner concluded that any behaviour that is followed by pleasant events (reinforcing stimulus), is likely to be repeated; a positively reinforced behaviour increases the likelihood of repetition of such behaviour. On the other hand, any behaviour that is followed by unpleasant events (and a non-reinforcing stimulus), is less likely to be repeated; it results in a decreased probability of that behaviour occurring in the future. Thus, operant or instrumental conditioning occurs when person learns to act out behaviours that are positively reinforced, and avoids those acts of behaviour that lead to punishment or yield negative reinforcement. Of the several responses made to a situation (stimulus), those which are followed by satisfaction and reward will be more likely to occur again; and, those which are followed by dissatisfaction and punishment will be less likely to occur again.

- **Types of Reinforcement according to Skinner**: According to Skinner, reinforcement influenced the likelihood of repetition/non-repetition of a response, and it could be two types, viz., positive reinforcement and negative reinforcement. Both positive and negative reinforcement can be used to encourage a desired behaviour. Positive reinforcement consists of a outcome that strengthens the likelihood of a response being repeated. For example, if an activity was followed by a reward, the likelihood of its repetition would increase. On the other hand, a negative reinforcement is an outcome that is also aimed to encourage a specific behaviour. In other words, through a negative reinforcement, a person may be taught to act out an alternative behaviour that would be more rewarding.
- **Reinforcement Schedule according to Skinner:** Skinner also spoke of the reinforcement schedule in terms of the frequency with which it should be applied. He said that rewards should not follow a desired behaviour all the time; neither should it follow every desired behaviour; this is because in case of regular reinforcement, the reinforcement becomes expected, and loses its novelty, making it ineffective. Skinner thus proposed that reinforcement should be intermittent and be placed at irregular intervals.
- **Kinds of Reinforcement:** Reinforcement may be defined as something that increases the strength of a response and tends to encourage repetitions of the behaviour that preceded the reinforcement. There are four kinds of reinforcement, viz., positive reinforcement, punishment, extinction and negative reinforcement. As may be seen in the figure, a pleasant event may be applied or it may be withdrawn. Similarly, a negative event may be applied or it may be withdrawn. The application or withdrawal of pleasant and unpleasant events

elicits learning in individuals and has varying impacts on the behaviour of a person.

- **Positive Reinforcement**: Here, a pleasant event is applied after the act of behaviour; in other words, the act of behaviour is followed by pleasant consequences; the individual is rewarded for his behaviour, thereby encouraging repetition of the response. Thus, the behaviour that precedes the pleasant event is more likely to occur again. The behaviour is positively reinforced.
- **Punishment:** An unpleasant event is applied after the act of behaviour; in other words, the act of behaviour is followed by unpleasant consequences; the individual is punished for his behaviour, thereby discouraging repetition of the response. Thus, the behaviour that precedes the pleasant event is weakened and becomes less likely to occur again.
- **Extinction:** In the case of extinction, a pleasant event is withdrawn after the act of behaviour; in other words, the act of behaviour is not followed by pleasant consequences; the individual is neither rewarded nor punished for his behaviour, thereby discouraging repetition of the response. Thus, the behaviour that precedes the pleasant event is less likely to occur again.
- **Negative Reinforcement:** An unpleasant event is withdrawn after the act of behaviour; in other words, the act of behaviour is not followed by unpleasant consequences; the individual is not punished for his behaviour, thereby encouraging repetition of the response. Thus, the behaviour that precedes the pleasant event is more likely to occur again.

Educational Implications

- Teaching is the arrangement of contingencies of reinforcement which expedite learning. For effective teaching teacher should arranged effective contingencies of reinforcement.
- During learning process child acquire unpleasant experiences also. This unpleasantness becomes conditioned to the teacher subject and the classroom and learner dislike the subject and a teacher. Suitable behavioural contingencies, atmosphere of recognition, acceptance, affection and esteem helps child in approaching teacher and the subject. If student is not serious in study, teacher make use of negative reinforcement like showing negligence, criticizing student etc. but if student is serious in study, teacher make use of positive reinforcement like prize, medal, praise and smile.
- Two types of behaviour is seen in the classroom viz undesired behaviour and problematic behaviour. Operant conditioning is a behaviour therapy technique that shape students behaviour. For this teacher should admit positive contingencies like praise, encouragement etc. for learning. One should not admit negative contingencies.

- Through conditioning fear, anxieties, prejudices, attitudes, perceptual meaning develops. Example of anxiety: Signals on the road Siren blown during war time Child receiving painful injection from a doctor Anxiety is a generalized fear response. To break the habits of fear, desensitization techniques should be used by a teacher. Initially teacher should provide very weak form of conditioned stimulus. Gradually the strength of stimulus should be increased.

Self-Check Exercise – 3

1. If we reinforce the desired response every time it occurs we are using:
   a. continuous reinforcement
   b. incremental reinforcement
   c. intermittent reinforcement
   d. contingent reinforcement
2. _____ schedules of reinforcement are based on number of responses while _____ schedules of reinforcement are based on elapsed time.
   a. fixed, variable
   b. variable, fixed
   c. interval, ratio
   d. ratio, interval

6.6 Learning through Trial and Error (E.L Thorndike)

Edward Lee Thorndike (1874-1949) was the first American psychologist who put forward the Trial and Error Theory of learning. According to Thorndike, all learning takes place because of formation of bond or connection between stimulus and response. He further says that learning takes place through a process of approximation and correction. A person makes a number of trials, some responses do not give satisfaction to the individual but he goes on making further trials until he gets satisfactory responses. Thorndike conducted a number of experiments on animals to explain the process of learning. His most widely quoted experiment is with a cat placed in a puzzle box.

Thorndike put a hungry cat in a puzzle box. The box had one door, which could be opened by manipulating a latch of the door. A fish was placed outside the box. The cat being hungry had the motivation of eating fish outside the box. However, the obstacle was the latch on the door. The cat made random movements inside the box indicating trial and error type of behaviour biting at the box, scratching the box, walking around, pulling and jumping etc. to come out to get the food. Now in the course of her movements, the latch was manipulated accidently and the cat came out to get the food. Over a series of successive trials, the cat took shorter and shorter time, committed less number of errors, and was in a position to manipulate the latch as soon as it was put in the box and learnt the art of opening the door. Thorndike concluded that it was only after many random trials that the cat was able to hit upon the solutions. He named it as Trial and Error Learning. An analysis of the learning behaviour of the cat in the box shows that besides trial and error the principles of goal, motivation, explanation and reinforcement are involved in the process of learning by Trial and Error.

Laws of Learning: Thorndike gave certain laws of Learning. These laws are:

1. Law of Readiness: This law refers to the fact that learning takes place only when the learner is prepared to learn. No amount of efforts can make the child learn if the child is not ready to learn. The dictum that 'you can lead a horse to the pond but you can't make it drink water unless it feels thirsty' goes very well with this law. In other words, if the child is ready to learn, he/she learns more quickly, effectively and with greater satisfaction than if he/she is not ready to learn. In the words of Thorndike the three stages of this Law of Readiness are:

- For a conduction unit ready to conduct, to conduct is satisfying.
- For a conduction unit ready to conduct, not to conduct is annoying.
- For a conduction unit not ready to conduct, to conduct is annoying.

Thus, the Law of Readiness means mental preparation for action. It is not to force the child to learn if he is not ready. Learning failures are the result of forcing the learner to learn when he is not ready to learn something.

2. Law of Exercise: This law explains the role of practice in learning. According to this law, learning becomes efficient through practice or exercise. The dictum 'Practice makes a man perfect' goes very well with this law. This law is further split into two parts - Law of use and Law of disuse. The law of use means that a connection between a stimulus and response is strengthened by its occurrence, its exercise or its use. In other words, the use of any response strengthens it, and makes it more prompt, easy and certain. Regarding the law of disuse, it is said that when a modifiable connection is not made between a stimulus and a response over a length of time, the strength of that connection is decreased. This means that any act that is not practised for some time gradually decays. Anything that is not used exercised or practised for a certain period tends to be forgotten or becomes weak in strength, efficiency and promptness.

3. Law of Effect: This is most important of Thorndike's laws, which state that when a connection between stimulus and response is accompanied by satisfying state, its strength is increased. On the other hand, when a connection is accompanied by an annoying state of affairs, its strength is reduced or weakened. The saying 'nothing succeeds like success' goes very well with this law. In other words, the responses that produce satisfaction or comfort for the learner are strengthened and responses that produce annoyance or discomfort for the learner are weakened. Thorndike revised this law in 1930 and according to this revision, he stated that reward strengthened the response but punishment did not always weaken the response. Then he placed more emphasis on the reward aspect than on the punishment aspect of Law of Effect.

Self-Check Exercise – 4

Q.1. Thorndike developed the:

a. law of effort

b. law of energy

c. law of effusion

d. law of effect

6.7 Learning through Observation – Modeling/Observational Learning

There are a number of learning theories, such as classical conditioning and operant conditioning that emphasize how direct experience, reinforcement, or punishment leads to learning. However, a great deal of learning happens indirectly. For example, think of how a child watches his parent's wave at one another and then imitates these actions himself. A tremendous amount of learning happens through this process of watching and imitating others. In psychology, this is known as observational learning. Observational learning is sometimes also referred to as shaping, modelling, and vicarious reinforcement. While it can take place at any point in life, it tends to be the most common during childhood as children learn from the authority figures and peers in their lives. It also plays an important role in the socialization process, as children learn how to behave and respond to others by observing how their parents and other caregivers interact with each other and with other people. This theory was given by the famous psychologists Albert Bandura. He was born December 4, 1925, graduated from the University of British Columbia with a degree in Psychology in 1949. Thereafter in 1953 he began teaching at Stanford University. In his Social learning theory suggests that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement. The social learning theory proposed by Albert Bandura has become the most influential theory of learning and development. Bandura believed that direct reinforcement could not account for all types of learning. All the

behavioural theories of learning advocated that all learning was the result of associations formed by conditioning, reinforcement, and punishment; but Bandura's social learning theory suggested that learning can also occur simply by observing the actions of others. His theory added a social element, arguing that people can learn new information and behaviours by watching other people. This theory is known as observational learning (or modelling) and can be used to explain a wide variety of behaviours. According to Bandura **(**Social Learning Theory**,** 1977), "Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behaviour is learned observationally through modelling: from observing others one forms an idea of how new behaviours are performed, and on later occasions this coded information serves as a guide for action."

Basic Social Learning Concepts: There are three concepts which explain the social learning theory. First is that people can learn through observation and second is the notion that internal mental states are an essential part of this process. Finally, this theory recognizes that just because something has been learned, it does not mean that it will result in a change in behaviour. These three concepts are discussed in detail as under:

1. Individuals can Learn through Observation (Observational Learning): In Bobo Doll experiment, Bandura demonstrated that children learn and imitate behaviours, they have observed in other people. The children in Bandura's studies observed an adult acting violently toward a Bobo Doll. When the children were later allowed to play in a room with the Bobo Doll, they began to imitate the aggressive actions they had previously observed. The detail of experiment is given as under:

Experiment: *Bandura designed the Bobo Doll Experiment to try and prove that children would copy an adult role model's behaviour. He wanted to show, by using aggressive and non-aggressive actors, that a child would tend to imitate and learn from the behaviour of a trusted adult. The Bobo Doll is an inflatable toy about five feet tall, designed to spring back upright when knocked over. Children were chosen as subjects for the study, because they have less social conditioning; they have also had less instruction and teaching of the rules of society than adult subjects.*

Hypotheses and Predictions: *Bandura had a number of predictions about the outcomes of the Bobo Doll Experiment, fitting with his views on the theories of social learning.*

- *Children witnessing an adult role model behaving in an overly aggressive manner would be likely to replicate similar behaviour themselves, even if the adult was not present.*

- *Subjects who had observed a non-aggressive adult would be the least likely to show violent tendencies, even if the adult was not present. They would be even less likely to exhibit this type of aggression than the control group of children, who had seen no role model at all.*
- *Bandura believed that children would be much more likely to copy the behaviour of a role model of the same sex. He wanted to show that it was much easier for a child to identify and interact with an adult of the same gender.*
- *The final prediction was that male children would tend to be more aggressive than female children, because society has always tolerated and advocated violent behaviour in men more than women.*

Experiment Settings: *For the Bobo Doll Experiment, Bandura selected a number of children from the local Stanford Nursery School, varying in age from 3 to 6 years, with the average age being 4 years and 4 months. To test the prediction that boys would be more prone to aggression than girls, he picked 36 subjects of each sex. The control group, which would not see an adult role model at all, consisted of 24 children, 12 boys and 12 girls. The second group, which would be exposed to an adult showing aggressive tendencies, was similarly made up of 24 children of either sex. Both of the resulting groups of 12 were further divided; half would be tested with a female role model, half with a male role model. The third group was structured in exactly the same way as the second, the only difference being that they would be exposed to a passive adult. For the Bobo Doll Experiment, it was necessary to pre-select and sort the children, to try and ensure that there was an even spread of personality types across the test groups; some subjects already known to be more aggressive in personality than others. For this, one of the teachers from the nursery worked with the experimenter, to rate each child's personality and attempt to construct well balanced groups. It must also be noted that each subject was tested alone and individually, to ensure that the effects and reactions of their classmates would bear no influence on the final results or findings of the experiment. The Bobo Doll Experiment proper began by placing one of the children from the test groups in a room with an adult. The subject sat in one corner of the room, with a few appealing toys to play with, such as potato prints and sticker activities. The adult sat in the other corner of the room, with a few toys, as well as a Bobo Doll and mallet. The child was not permitted to play or interact with these toys. For the children in group two, after one minute of playing with the toys, the adult would begin to verbally and physically attack the doll for a period of 10 minutes. For the third group tested, the adult would sit quietly and play peacefully with the toys for ten minutes. The control group, of course, sat in the room for ten minutes with no adult present. The next stage of the Bobo Doll Experiment was to take the subject into another room, which was filled with interesting toys. The child was not permitted to play with these toys, being told that they were reserved for other children to play with. This was intended to build up the levels of frustration within the subject. The child was then*

taken into yet another room filled with interesting toys, some of an aggressive type, some non-aggressive; the room also contained the Bobo Doll and the mallet. The subject was watched through a one-way mirror, and a number of types of behaviour were assessed. The first factor measured was physical aggression, consisting of hitting the doll with the mallet or punching, kicking or sitting on the doll. Verbal aggression was also assessed, whether it was general abuse or an imitation of phrases used by the adult role-model. The third measurement was the amount of times the mallet was used to display other forms of aggression than hitting the doll. The final behaviours studied were modes of aggression, shown by the subject, which were not direct imitations of the role-model's behaviour.

Results: *The results for the Bobo Doll Experiment showed, as expected by prediction one, that children who were exposed to the aggressive model were more likely to show imitative aggressive behaviour themselves. Prediction four was proved correct in that boys were nearly three times more likely to replicate physically violent behaviour than girls. The measurements for verbally aggressive behaviour again showed that children exposed to aggressive role models were more likely to imitate this behaviour. The levels of verbal aggression expressed were about the same for boys and girls. Subjects in the Bobo Doll Experiment exposed to the non-aggressive model, or no model at all, showed little imitative aggressive behaviour. This finding partially proved prediction two, with children exposed to a passive role model showing less imitative aggression. However, the results did not fully prove this prediction, as there was no discernible difference in the imitative aggression levels between groups one and three. Male subjects exposed to non-aggressive role models were less likely to use the mallet to hit the Bobo Doll. Strangely, male subjects placed with non-aggressive female models were more likely to use the mallet than the control group.*

Conclusion: *The findings of the Bobo Doll Experiment proved to be a little inconclusive with most of the predictions not being fully proved. It is not certain that children learn socially, but it is likely that children observing an adult model utilizing violence are more likely to believe that this type of behaviour is normal. They may, therefore, be more likely to use this type of action themselves when confronted by similar situations. Bandura found that girls were much less likely to be physically violent, but were equally as prone to verbal aggression as boys. This is something often encountered in society, where bullying at school, by boys, is more often of a physical nature; intimidation amongst girls tends to be more verbal and social. There were a few criticisms of the experiment; the Bobo Doll springs back upright when it is hit and there is a strong possibility that the children saw it as a game rather than anything else. There was a follow up experiment, in 1963, which used the same methodology but showed the subjects violence via video; this had a much less defined response than the initial experiment. Another refinement of the Bobo Doll Experiment, in 1965, tried to establish the effects of rewarding or punishing bad and violent behaviour. Children, who*

witnessed the model being punished for aggressive behaviour, were much less likely to follow suit. Interestingly, there was no change in aggression when the model was rewarded for bad behaviour.

Bandura identified three basic models of observational learning:

- A live model, which involves an actual individual demonstrating or acting out behaviour.
- A verbal instructional model, which involves descriptions and explanations of behaviour.
- A symbolic model, which involves real or fictional characters displaying behaviours in books, films, television programs, or online media.

2. Mental States Important to Learning (Intrinsic Reinforcement): Bandura noted that external, environmental reinforcement was not the only factor to influence learning and behaviour. He described intrinsic reinforcement as a form of internal reward, such as pride, satisfaction, and a sense of accomplishment. This emphasis on internal thoughts and cognitions helps connect learning theories to cognitive developmental theories. While many textbooks place social learning theory with behavioural theories, Bandura himself describes his approach as a 'social cognitive theory.'

3. Learning does not necessarily lead to a change in behaviour: While behaviourists believed that learning led to a permanent change in behaviour, observational learning demonstrates that people can learn new information without demonstrating new behaviours.

The Modelling Process: Not all observed behaviours are effectively learned. Factors involving both the model and the learner can play a role in whether social learning is successful. Certain requirements and steps must also be followed. The following steps are involved in the observational learning and modelling process:

- **Attention:** In order to learn, you need to be paying attention. Anything that distracts your attention is going to have a negative effect on observational learning. If the model interesting or there is a novel aspect to the situation, you are far more likely to dedicate your full attention to learning.
- **Retention:** The ability to store information is also an important part of the learning process. Retention can be affected by a number of factors, but the ability to pull up information later and act on it is vital to observational learning.
- **Reproduction:** Once you have paid attention to the model and retained the information, it is time to actually perform the behaviour you observed. Further practice of the learned behaviour leads to improvement and skill advancement.

- **Motivation:** Finally, in order for observational learning to be successful, you have to be motivated to imitate the behaviour that has been modelled. Reinforcement and punishment play an important role in motivation. While experiencing these motivators can be highly effective, so can observing other experience some type of reinforcement or punishment? For example, if you see another student rewarded with extra credit for being to class on time, you might start to show up a few minutes early each day.

Educational Implications

- Modelling provides an alternative to teaching new behaviours. Instead of using shaping, an operant conditioning, modelling is a faster, more efficient means of teaching. To promote effective modelling, teachers must ensure the four essential conditions exist; attention, retention, motor reproduction and motivation.
- Students learn a great deal simply by observing others.
- Teachers must model appropriate behaviours and take care they do not model inappropriate behaviours.
- Teachers should expose students to a variety of models; this is important to break down stereotypes.
- Teachers should help students set realistic expectations; ensuring that expectations are realistically challenging. Sometimes a task is beyond a student's ability.
- Self-regulation techniques provide an effective method for improving student behaviours.

Examples of Observational Learning

- A child watches his mother folding the laundry. He later picks up some clothing and imitates folding the clothes.
- A young couple goes on a date to a Chinese restaurant. They watch other diners in the restaurant eating with chopsticks and copy their actions in order to learn out to use these utensils.
- A young boy watches another boy on the playground get in trouble for hitting another child. He learns from observing this interaction that he should not hit others.
- A group of children play hide and seek at recess. One child joins the group, but has never played before and is not sure what to do. After observing the other children play, she quickly learns the basic rules of the game and joins in.

Factors Influencing Observational Learning: According to Bandura's research, there are a number of factors that increase the likelihood that behaviour will be imitated. We are more likely to imitate:

- People we perceive as warm and nurturing
- People who receive rewards for their behaviour
- When you have been rewarded for imitating the behaviour in the past
- When we lack confidence in our own knowledge or abilities
- People who are in a position of authority over our lives
- People who are similar to us in age, sex, and interests
- People who we admire or who are of a higher social status
- When the situation is confusing, ambiguous, or unfamiliar

Self-Check Exercise - 5

1. Observational learning is also known as:
   a. classical conditioning
   b. operant conditioning
   c. modelling
   d. manipulation

6.8 Learning through Insight – Discovery Learning

The theory of learning by insight is the contribution of Gestalt Psychologists. Gestalt is a term derived from the German word 'Gestalten', has no English equivalent. The nearest English translation of Gestalt is 'configuration' or an 'organised whole' or the 'totality of a situation'. Wolfgang Kohler, Max Wertheimer, Kurt Koffka etc. were the prominent Gestalt Psychologists. They believe that "The whole is more important than its parts". Dissatisfied with the behaviourist approach of learning, the cognitivists tried to see learning as a more deliberate and conscious effort of the individual rather than a mere product of habit formation or a machine-like stimulus-response connection. According to them the learner does not merely respond to a stimulus, but definitely process what he receives or perceives. Thus learning is a purposive, explorative and creative activity instead of trial and error. It is a theory regarding 'perception'. Gestaltists consider learning as the development of insight, which is primarily concerned with the nature of perception. Perception is a process by which an organism interprets and organizes sensation to produce a meaningful experience of the world. It is the ultimate experience of the world and typically involves further processing of sensory input. While learning, the learner always perceives the situation as a whole and after seeing and evaluating the different relationships takes the proper decision intelligently. Gestalt psychology used the term 'insight' to describe the perception of the whole situation by the learner and his intelligence in responding to the proper relationships. Insight refers the sudden flash in the mind about the solution of the problem. Kohler conducted many experiments

with his chimpanzee 'Sultan' to describe the term "insight". These experiments are the illustration of Learning by Insight.

Kohler's Experiments

2. In one experiment, Kohler put the chimpanzee; 'Sultan' inside a cage and a banana was hung from the roof of a cage. A box was placed inside the cage. The chimpanzee tried to reach the banana by jumping but could not succeed. Suddenly he got an idea and used the box as a jumping platform by placing it just below the hanging banana.
3. In another experiment Kohler made this problem complicated that two or three boxes were required to reach the banana.
4. In a more complicated experiment, a banana was kept far outside the cage and two sticks – one larger than the other- were kept inside the box. When failed to reach the banana by one stick, with a sudden bright idea the chimpanzee tried to reach the banana by joining the two sticks.
5. These experiments demonstrated the role of intelligence and cognitive abilities in higher learning and problem solving situations.

Steps in Insight Learning

1. **Identifying the problem:** The learner recognizes the presence of an intervening obstacle on his way to the goal.
2. **Understanding the Problem:** The learner observes the problematic situation, analyse it and perceive the relation between the goal and the obstacles.
3. **Incubation of Ideas:** After analysing the total situation he reaches in conclusions by means of hesitation, pause, concentrated attention etc.
4. **Trail of Mode of Response:** The learner makes initial efforts in the form of a simple trial and error mechanism.
5. **Sustained Attention:** The learner maintains frequently recurrent attention to the goal and motivation.
6. **Insight Development:** In a certain moment there is a sudden perception of the relationship in the total situation and the organism directly performs the required acts.
7. **Steady Repetition of Adaptive Behaviour:** After getting an insightful solution, the individual tries to implement it in another situation.
8. **Comprehension of Ability:** The learner reaches the ability to understand the relevant parts of the situation and overlooking the irrelevant ones.

Gestalt Laws of Learning: There are four important laws regarding insight learning. They are as follows:

- The Law of Similarity: The law of similarity states that “when there are different sets of objects on view then they are perceived as groups rather than individual objects”. This law leads us to link together parts of the visual field that are similar in colour, lightness, texture, shape, or any other quality.
- The law of proximity: The law of proximity states that “objects which are close together are likely to be seen as a group”. For example, look at the following line.
- Law of Closure: According to the law of closure, we prefer complete forms to incomplete forms. When the outline of an object is left unfinished, as long as the gap is less than half the total circumference then the object is identified and perceived as whole rather than as a different shape. Thus, in the drawing below, we mentally close the gaps and perceive it as I B M. This tendency allows us to perceive whole objects from incomplete and imperfect forms.
- The Law of Continuity: The law states that “we link individual elements of a configuration so that they form continuous pattern that makes sense to us”. That is, we tend to perceive the components of a perceptual filed as smoothly flowing rather than discontinuous forms.

Educational Implications

- **From whole to parts:** The teacher should present the subject matter as a whole to facilitate insight learning.
- **Integrated approach:** While planning curriculum, gestalt principles should be given due consideration. A particular subject should not be treated as the mere collection of isolated facts. It should be closely integrated into a whole.
- **Importance of Motivation:** the teacher should arouse the child’s curiosity, interest and motivation. He should gain full attention of the whole class before teaching.
- **Emphasis on Understanding:** It has made learning an intelligent task requiring mental abilities than a stimulus - response association. So the learner must be given opportunities for using his mental abilities.
- **Problem solving approach:** This theory emphasis that as the learner is able to solve problems by his insight, meaningful learning, learning by understanding, reasoning, etc. must be encouraged in the school.
- **Checking of Previous Experience:** As insight depends upon the previous experiences of the learner, the teacher must check the previous experiences of the child and relate them with the new learning situation.
- **Goal Orientation:** learning is a purposeful and goal oriented task, the learner has to be well acquainted with these objectives. He should be fully familiar with the goals and purposes of every task.

Self-Check Exercise – 6

1. On what does gestalt psychology place its focus?

   a) Gestalt psychology places its focus on the whole of something.

   b) Gestalt psychology places its focus on the individual parts of something.

   c) Gestalt psychology places its focus on the conditioning of something.

   d) Gestalt psychology doesn't really focus on anything

6.9 Summary

Dear learner, in this unit we have gone through the concept of Non-associative Learning- Habituation and Sensitization, Learning through Association – Classical Conditioning and its Educational Implications, Learning through Consequences – Operant Conditioning and its Educational Implications, Learning through Trial and Error, Learning through Observation – Modelling/Observational Learning, Learning through Insight – Discovery Learning and their Educational Implications.

6.10 Glossary

Classical conditioning- a type of learning behaviour that occurs unconsciously through association with a certain stimulus.

Punishment– presenting a strong stimulus to decrease the likelihood of a response.

Cueing is providing a student with a verbal or non-verbal cue as to the appropriateness of behaviour.

Behaviour Modification- the process of changing a person's behaviour by using different techniques (i.e. reinforcement, punishment, shaping, cueing, etc.).

6.11 Answers to Self-Check Exercises

Self-Check Exercise – 1

Answer Q. 1: b

Answer Q. 2: b

Self-Check Exercise – 2

Answer Q. 1: c

Self-Check Exercise – 3

Answer Q. 1: a

Answer Q. 2: d

Self-Check Exercise – 4

Answer Q. 1: d

Self-Check Exercise – 5

Answer Q. 1: c

Self-Check Exercise – 6

Answer Q. 1: a

6.12 References/Suggested Readings

Bandura, A. (1977). Social Learning Theory. New York: General Learning Press.
Bandura, A. (1973). Aggression: A Social Learning Analysis. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1986). Social Foundations of Thought and Action. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W.H. Freeman.
Chauhan S.S. (1995) Advanced Educational Psychology, New Delhi: Vikas Publishing House Pvt. Ltd.
Dandapani S. (2005). Advanced Educational Psychology, New Delhi: Anmol Publications
Lindgren H.C. (1980) 'Educational Psychology in the Classroom, New York: Oxford University Press.
Mangal S.K. 2005) Advanced Educational Psychology, New Delhi. Prentice Hall of India,
Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.
Skinner C E, (1984) Educational Psychology New Delhi: Prentice Hall.
Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

6.13 Terminal Questions

1. Explain the concept of non-associative learning- habituation and sensitization.
2. Describe learning through association (classical conditioning) and its educational implications.
3. Explain learning through consequences (operant conditioning) and its educational implications.

Unit - 7

Social Constructivist Learning – Concept of Vygotsky, Nature and Implications

Structure

7.1 Introduction

7.2 Learning Objectives

7.3 Social Constructivist Learning – Concept of Vygotsky, Nature and Implications

Self-Check Exercise - 1

7.4 Summary

7.5 Glossary

7.6 Answers to Self-Check Exercises

7.7 References/Suggested Readings

7.8 Terminal Questions

7.1 Introduction

Dear learner, this unit deals the meaning and concept of Social Constructivist Learning – concept of Vygotsky, nature and implications in detail.

7.2 Learning Objectives

After completing this unit, you will be able to:

- describe Social Constructivist Learning – Concept of Vygotsky theory and its educational implications.

7.3 Social Constructivist Learning – Concept of Vygotsky, Nature and Educational Implications

Social learning theories help us to understand how people learn in social contexts (learn from each other) and informs us on how we, as teachers, construct active learning communities. Lev Vygotsky (1962), a Russian teacher and psychologist, first stated that we learn through our interactions and communications with others. Vygotsky (1962) examined how our social environments influence the learning process. He suggested that learning takes place through the interactions students have with their peers, teachers, and other experts. Consequently, teachers can create a learning environment that maximizes the learner's ability to interact with each other through discussion, collaboration, and feedback. Lev S. Vygotsky believed that culture is the

principal determinant of cognitive progress. In Vgostsky's theory on constructivism, knowledge leads to further cognitive development. The societal configuration of intelligence states that the individual growth could not be comprehended without indication to the societal and cultural context where the aforementioned evolution is entrenched mind development is continuous. Vygotsky focuses on the actual mechanism of the development. He excludes visible stages of development as theories and assumptions. Vygotsky's theory on constructivism does not adhere to the idea that a single abstract principle is able to explain cognitive development. As a substitute to Piaget's constructivism, he argues that knowledge is internalization of social activity. Mediation refers to people intentionally interject items between their environment and themselves, so that they are able to modify it and gain specific benefits. Mediation is the key proponent of Vygotsky's theory of constructivism. His theory offers a harmonizing viewpoint to the behaviourist view. Vygotsky's theory of constructivism supports that the use of mediators helps the human to alter their environment, and this is her/his way of interacting with the nature. Vygotsky's theory of constructivism also supports that the use of activity mediators provides a way in which people are able to interact with the nature. Mediation is also defined as the use of certain tools within socially organized activity. There were two phenomena which encompasses the mediated relationship of individuals to their environment. These are: one is humans use language and physical signs to change social relations into psychological functions between their minds and their environment. The second thing is that higher intellectual progression will actually use symbolic mediation. Vygotsky (1962) argues that culture is the primary determining factor for knowledge construction. We learn through cultural lens by interacting with others and following the rules, skills, and abilities shaped by our culture.

- Developing Learning Communities
- Community of Learners Classroom
- Collaborative Learning and Group Work
- Discussion-based Learning (Socratic Questioning Methods)

Like Piaget, Vygotsky claimed that infants are born with the basic materials/abilities for intellectual development - Piaget focuses on motor reflexes and sensory abilities. Lev Vygotsky refers to Elementary Mental Functions:

- Attention
- Sensation
- Perception
- Memory

Eventually, through interaction within the sociocultural environment, these are developed into more sophisticated and effective mental processes/strategies which he refers to as Higher Mental Functions**.** For example, memory in young children this is

limited by biological factors. However, culture determines the type of memory strategy we develop. E.g., in our culture we learn note-taking to aid memory, but in pre-literate societies other strategies must be developed, such as tying knots in string to remember, or carrying pebbles, or repetition of the names of ancestors until large numbers can be repeated. Vygotsky refers to tools of intellectual adaptation - these allow children to use the basic mental functions more effectively/adaptively, and these are culturally determined (e.g. memory mnemonics, mind maps). Vygotsky therefore sees cognitive functions, even those carried out alone, as affected by the beliefs, values and tools of intellectual adaptation of the culture in which a person develops and therefore socio-culturally determined. The tools of intellectual adaptation therefore vary from culture to culture - as in the memory example.

Vygotsky's sociocultural theory of human learning describes learning as a social process and the origination of human intelligence in society or culture. The major theme of Vygotsky's theoretical framework is that social interaction plays a fundamental role in the development of cognition. Vygotsky believed everything is learned on two levels. First, through interaction with others, and then integrated into the individual's mental structure.

> ***Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (Vygotsky, 1978, p.57)***

A second aspect of Vygotsky's theory is the idea that the potential for cognitive development is limited to a "zone of proximal development" (ZPD). This "zone" is the area of exploration for which the student is cognitively prepared, but requires help and social interaction to fully develop (Briner, 1999). A teacher or more experienced peer is able to provide the learner with "scaffolding" to support the student's evolving understanding of knowledge domains or development of complex skills. Collaborative learning, discourse, modelling, and scaffolding are strategies for supporting the intellectual knowledge and skills of learners and facilitating intentional learning.

Difference between Vygotsky's theory and Piaget

- Vygotsky places more emphasis on culture affecting/shaping cognitive development - this contradicts Piaget's view of universal stages and content of development. (Vygotsky does not refer to stages in the way that Piaget does). Vygotsky assumes cognitive development varies across cultures, whereas Piaget states cognitive development is mostly universal across cultures.

- Vygotsky places considerably more emphasis on social factors contributing to cognitive development (Piaget is criticized for underestimating this). Vygotskystates cognitive development stems from social interactions from guided learning within the zone of proximal development as children and their partners co-construct knowledge. In contrast Piaget maintains that cognitive development stems largely from independent explorations in which children construct knowledge of their own. For Vygotsky, the environment in which children grow up will influence how they think and what they think about.
- Vygotsky places more (and different) emphasis on the role of language in cognitive development (again Piaget is criticized for lack of emphasis on this). For Vygotsky, cognitive development results from an internalization of language. According to Piaget, language depends on thought for its development (i.e. thought comes before language). For Vygotsky, thought and language are initially separate systems from the beginning of life, merging at around three years of age, producing verbal thought (inner speech).
- According to Vygotsky adults are an important source of cognitive development. Adults transmit their culture's tools of intellectual adaptation that children internalize. In contrast Piaget emphasizes the importance of peers as peer interaction promotes social perspective taking.

Educational Implications

Vygotsky's concept of the zone of proximal development is based on the idea that development is defined both by what a child can do independently and by what the child can do when assisted by an adult or more competent peer (Daniels, 1995; Wertsch, 1991). Knowing both levels of Vygotsky's zone is useful for teachers, for these levels indicate where the child is at a given moment as well as where the child is going. The zone of proximal development has several implications for teaching in the classroom. According to Vygotsky, for the curriculum to be developmentally appropriate, the teacher must plan activities that encompass not only what children are capable of doing on their own but what they can learn with the help of others (Karpov& Haywood, 1998). Vygotsky's theory does not mean that anything can be taught to any child. Only instruction and activities that fall within the zone promote development. For example, if a child cannot identify the sounds in a word even after many prompts, the child may not benefit immediately from instruction in this skill. Practice of previously known skills and introduction of concepts that are too difficult and complex have little positive impact. Teachers can use information about both levels of Vygotsky's zone of proximal development in organizing classroom activities in the following ways:

- Instruction can be planned to provide practice in the zone of proximal development for individual children or for groups of children. For example, hints

and prompts that helped children during the assessment could form the basis of instructional activities.

- Cooperative learning activities can be planned with groups of children at different levels who can help each other learn.
- Scaffolding (Wood, Bruner, & Ross, 1976) is a tactic for helping the child in his or her zone of proximal development in which the adult provides hints and prompts at different levels. In scaffolding, the adult does not simplify the task, but the role of the learner is simplified "through the graduated intervention of the teacher" (Greenfield, 1984, p. 119).
- The implications of Vygotsky theory are that learners should be provided with socially rich environments in which to explore knowledge domains with their fellow students, teachers and outside experts. ICTs can be used to support the learning environment by providing tools for discourse, discussions, collaborative writing, and problem-solving, and by providing online support systems to scaffold students' evolving understanding and cognitive growth.

Self-Check Exercise – 1

Q.1 Which of the following can help promote the development Sociocultural Theory in practical applications?

- Planning and organising their instruction and lessons
- Using hints,prompts and instructions
- Scaffolding
- All of the above

Q.2 What are the process of social interaction?

- Seeing
- Jointly doing
- Independently doing
- All of the above

7.4 Summary

Dear learner, in this unit we have gone through concept of Vygotsky, nature and in detail.

7.5 Glossary

Self-efficacy-a person's belief that they are capable to perform certain behaviors that lead to a desired performance outcome.

Cognition– how someone takes in information and processes it, related to their experiences.

7.6 Answers to Self-Check Exercise

Self-Check Exercise – 1

Answer 1: d

Answer 2: d

7.7 References/Suggested Readings

Bandura, A. (1977). Social Learning Theory. New York: General Learning Press.
Bandura, A. (1973). Aggression: A Social Learning Analysis. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1986). Social Foundations of Thought and Action. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W.H. Freeman.
Chauhan S.S. (1995) Advanced Educational Psychology, New Delhi: Vikas Publishing House Pvt. Ltd.
Dandapani S. (2005). Advanced Educational Psychology, New Delhi: Anmol Publications
Lindgren H.C. (1980) 'Educational Psychology in the Classroom, New York: Oxford University Press.
Mangal S.K. 2005) Advanced Educational Psychology, New Delhi. Prentice Hall of India,
Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.
Skinner C E, (1984) Educational Psychology New Delhi: Prentice Hall.
Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

7.8 Terminal Questions

1. Explain concept of Vygotskyand its educational implications.

Unit - 8

Transfer of Learning: Concept, Types and Strategies to Maximize Transfer of Learning

Structure

8.1 Introduction

8.2 Learning Objectives

8.3 Concept, Types and Strategies to Maximize Transfer of Learning

Self-Check Exercise - 1

8.4 Summary

8.5 Glossary

8.6 Answers to Self-Check Exercises

8.7 References/Suggested Readings

8.8 Terminal Questions

8.1 Introduction

Dear learner, this unit deals the meaning and concept of, types and strategies to maximize Transfer of Learning in detail.

8.2 Learning Objectives

After completing this unit, you will be able to:

- Explain Transfer of Learning, Types and Strategies to Maximize Transfer of Learning.

8.3 Concept, Types and Strategies to Maximize Transfer of Learning

When an individual apply the previous experience on the new related experience it is called transfer of learning. Except students are able to transfer prior skills and knowledge on new ones, the continuity of learning will be difficult. The essence of learning is that a previously learnt fact should be linked with a present experience. This is because human being must be dynamic and that the prior experience will make them to develop the new skills and knowledge. The influence the past experience has on the succeeding experience is called transfer of learning.

Cormier and Hagman, (1987) define transfer of learning as the application of skills and knowledge learned in one context being applied in another context. Oladele (1998) defines transfer of learning as the effect of prior learning on the present. Learning is meaningful when the past learning smoothens the progress of something else. For

example, if a learned experienced refuses to aid the new learning, the goal of training has seized to be accomplished. In the school, the teacher teaches some subjects in order that the experience gained in those subjects could be transferred into another. Charham (1987) affirms that human and animal learning is normally affected by the past experience, and that the various subjects are included in the school curriculum because of their utility and wide application to real life situations For instance, the teacher who has taught his/her students some skills in Mathematics would believe that such skills be transferred to related subjects like Physics or Commerce. If the students fail to apply these skills in their subsequent learning, it means that the students have not been successful in transferring the learning. The above example gives us clues into the different types of transfer of learning that we have. These are explained below:

(a) Positive Transfer: This is a situation whereby a previously learnt fact or information aids in the understanding of a new task. Aside from aiding the learners in their subsequent learning, it also helps the learners to learn better and effectively the new task.

(b) Negative Transfer: This is a type of learning in which prior experience imparts negatively on the new one. In this case, the understanding of past skills inhibits the mastering of new ones. For example, if a student wrongly connects information, it can lead to negative transfer.

(c) Zero Transfer: This type of learning reveals no link between the previously learnt task and the recent one. The evidence of zero transfer is hardly seen, it reveals no clear positive or negative effect.

Theories of Transfer of Learning

a. Theory of Mental Faculties: This theory was propounded by the Greek Philosophers, notable among them was Aristotle. The basic tenet of the theory is that human mind is sub-divided into different powers of faculties like memory, judgment, reasoning or thinking. It is therefore believed that each of these faculties is reinforced and developed by cast and continuous memorization of poetry/poem and similar works. This theory believes that exercises and regular practice will strengthen the mental faculties. The theory therefore dismisses the concept of transfer of learning, to it a well-trained and disciplined mind is the ingredient needed for understanding of new information.

b.Identical Elements Theory: Thorndike and Woodworth (American Psychologists) indicates that it is possible for an individual to transfer the prior skills and knowledge to recent ones because both experiences are identical (share things in common). This theory suggests that a successful or effective learning will happen if there are connections or interrelatedness between the old and the new experiences. For example, it is expected that a student who has learnt about the benefits of multiplication in mathematics, should be able to do well when he/she is asked to solve the problems related to factorization and exponents in the next lesson.

c. Theory of Generalization: This theory was advocated by a Psychologist named Charles Judd. The assumption of the theory is that general principles aid transfer of learning better than segregated facts. This theory believes in Gestalt, an assertion which views learning from a whole or complete form rather than in isolated form. For example, the theory of generalization indicates that a learnt experience should be useful in other day-to –day related activities.

Educational Implications

- Teacher should always emphasize the relationship that exists between one subject matter and another.
- The teacher should endeavour to develop positive attitudes towards a learning task so that the students can be motivated to like the task rather avoiding it.
- The teacher should know that transfer of learning will not take place when both the old and new are unrelated. Hence, the teacher should endeavour to teach his/her subject-matter in a more meaningful and detailed way rather than by rote.
- The teacher should provide the opportunity for his/her students to practice a subject-matter being discussed along with him/her. When the learners are allowed to take active part in teaching learning activities, they will be able to repeat the task at another time.
- It is believed that what students see, touch, feel or manipulate will be better remembered than the one they are not familiar with. For a meaningful transfer of learning to take place, the teacher should incorporate exercises that task the various senses of learners in the learning process

Self-Check Exercise – 1

Q.1 When the work learned in one situation interrupts the other situation is known as:

1. Positive transfer
2. Negative transfer
3. Both a and b
4. Zero transfer

8.4 Summary

Dear learner, in this unit we have gone through the concept, types and strategies to maximize Transfer of Learning in detail.

8.5 Glossary

Socialization- the process by which a person acquires social skills, beliefs, and values which conform to societal norms.

Imitative learning– where one person tries to imitate or copy another.

8.6 Answers to Self-Check Exercise

Self-Check Exercise – 1

Answer 1: b

8.7 References/Suggested Readings

Bandura, A. (1977). Social Learning Theory. New York: General Learning Press.
Bandura, A. (1973). Aggression: A Social Learning Analysis. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1986). Social Foundations of Thought and Action. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W.H. Freeman.
Chauhan S.S. (1995) Advanced Educational Psychology, New Delhi: Vikas Publishing House Pvt. Ltd.
Dandapani S. (2005). Advanced Educational Psychology, New Delhi: Anmol Publications
Lindgren H.C. (1980) 'Educational Psychology in the Classroom, New York: Oxford University Press.
Mangal S.K. 2005) Advanced Educational Psychology, New Delhi. Prentice Hall of India,
Santrock, John W. (2006). Educational Psychology Update: Preparing for PRAXIS TM and Practice (2nd edition), New Delhi: Tata McGraw Hill.
Skinner C E, (1984) Educational Psychology New Delhi: Prentice Hall.
Woolfolk, A.E. (2009). Educational Psychology (11th Edition) (My Education Lab Series) New Delhi: Prentice Hall.

8.8 Terminal Questions

Explain the concept, types and strategies to maximize Transfer of Learning.

UNIT -9

QUALITIES OF TEACHER IN CHANGING SCENARIO

STRUCTURE:

9.1-Introduction

9.2- Learning Objectives

9.3- Qualities of Teacher

Self- Check Exercise-1

9.3-1: Character and Personality of Teacher

9.3-2: Outer Appearance and Physical Health

9.3-3: Always alive to the aim of Education

9.3-4: Intelligence and Mental Health

9.3-5: Punctuality

9.3-6: Judicious use of Praise and Blame

9.3-7 Justice, Patience and Impartiality

9.3-8: Teacher is a good Guide, Self Confidence, and Self analysis

9.3-9: Optimistic and Positive Attitude towards Life

9.3-10: Sociability

Self Check Exercise-2

9.4-Love for Profession

9.4-1: Honesty for Profession

9.4-2 :Pre-service and In Service Teaching

9.4-3: Membership of Professional Organization

9.4-4: Adopt appropriate, latest teaching method

Self Check Exercise-3

9.5-Academic Character

9.5-1: Mastery over subject

9.5-1 Daily Preparation

9.5-3 Democratic attitude and thirst for Knowledge

9.5-4 Skill of questioning and using material aids

Self Check Exercise-3

9.5-5: Good voice, Memory and Fluency in Expression

9.5-6 Memory:

Self Check Exercise-4

9.6-Summary

9.7-Glossary

9.8- Answers to Self-Check Exercise

9.9- References and suggested readings

9.10-Treminal Questions

9.1- INTRODUCTION:

Progress of a country depends upon the quality of its teacher and for this reason teaching is the noblest among all profession. Concept of Teacher is very old as the history of Indian education itself. If there had been any education in the society in any form there must have been teachers and students in existence.

If we go through the letter – wise meaning of this word – “Teacher”

T – Talkative, Terrific, Tact, tolerance, truth, training

E – Energetic, Encourages, Enthusiasm, Ethics, Energy

A – Amiable, Acknowledges, Accuracy, Adaptability

C – Creative, Categories, Clarity, Co-operation

H – Hilarious, Help, Hard-work, Humility, Honest

E – Everlasting, Evaluate, Eagerness, Efficiency, Emotionally

R – Radiant, Resourcefulness, Reliability, Rationality

Teacher is expected to be that he may imbibe high values of life among the pupils and also should have high qualities. We can serve the people, nation and human race if he has competences of high order.

The role of the teacher is best explained by the following thinners.

According to Manu, "A teacher is the image of Brahma."

According to Swami Vivekananda, "The true teacher is he who can immediately come down to the level of the student, transfer his soul to the student's soul and see through and understand through his mind."

The destiny of a nation is being shaped in her classroom, and then the real destiny maker is the teacher. Whole system of education is revolves around the teachers. Teacher is the architect of the school work.

9.2 LEARNING OBJECTIVES

After studying this topic student will be able to know about:

Meaning of the word teacher.

Different Qualities of a teacher.

Comparison the teacher qualities in all aspect of behaviour.

9.3-Qualities of Teacher

Teacher is the maker of man. Teacher who educate children deserve more honors than parents who merely give them birth. Teacher is not an instructor or task master; he is a helper and a guide. He does not actually train the pupil's mind, he only

shows him how to perfect his instruments of knowledge and encourage him in the process. Teachers should have to play their part fully and effectively. Thus teachers should posses these following qualities.

Self- Check Exercise-1

Q-1: Teaching should be mainly done by

……

1. Skilled and trained teacher
2. Untrained teacher
3. Experienced teacher
4. Young talented individual

9.3-1: Character and Personality of Teacher

Teacher must be a good human being. If the teacher lacks character and personality of his pupil also developed poorly. 'Example is better than precept' is an old saying and is absolutely true in the teaching profession. Teacher teaches not only by 'what he says and does' but very largely by 'what he is'. Ryburn put it, 'Self analysis on the part of a teacher is necessary equipment. Teacher should be partly a scientist, doctor and completely religious. He should be morally alert, have patients, law, humanity.

Some physical and personalities qualities which teachers should have to possess are:-

Good physical and mental health

Hardworking and strong will power

Kindness and cooperative

Affectionate and helping nature

Effective appearance and impact over other

Courageous and self-confident

Studious and scholarly nature

Sincere, disciplinarian, patients

Selfless and impartial.

Optimistic outlook

Democratic outlook and impartial

Sympathy and wisdom

Punctuality and self analysis

Enthusiasm and industriousness

Sociability

Some of the personality character's are explained as following:

9.3-2: Outer Appearance and Physical Health

Teachers should be dress up properly. He should be neat and clean. He should wear neat, clean, simple and sober clothes. He should be calm, sweet, charming. He should be honest, careful of his conduct and caution in his behaviour.

Teacher should be physically fit. He lives active life. If the teacher suffer from various physical disease than he can't handle the student properly. He should have to follow the rules of healthy life – i.e. take balance diet, exercise, rest, participation games etc.

9.3-3: Always alive to the aim of Education

A good teacher never forgets about the aim of education i.e. to inculcate the quality of head heart, hand and health and not only to prepare them for passing exams. Teacher is always concern with the harmonious development of the child include all the aspect of life i.e. physical, mental, social, emotion, aesthetic, ethical, moral etc.

9.3-4: Intelligence and Mental Health

Good teacher generally have higher level of intelligence. They have high IQ level, versatile imagination originality, Good memory, resourcefulness etc.

They should be mentally healthy. They don't suffer from any kind of emotional/mental disease. He should be emotionally balanced. If the teacher suffer from any kind of tension and conflict than it is not good for his mental health. Unhappy, depressed teacher can't help their pupil to become happy, satisfied and well adjusted young persons. Hence the teacher should be cheerful, emotionally and mentally balanced.

9.3-5: Punctuality

A teacher must realize that coming late to school and going late to the class upsets the school work causes indiscipline and undermines the tone of school. A good

teacher is punctual in every work. He always come and attends the classes at the accurate time. He always try to complete the task and work of teaching with time.

9.3-6: Judicious use of Praise and Blame

These are the two important things used by teacher. Praise and blame should be used judiciously. Robinson Johnson also said “Praise like gold and diamond owes its value to scarcity.”

Praise easily enhances the pupils’ interest in any course of action. Praise is a forceful incentive at the disposal of the teacher.

9.3-7 Justice, Patience and Impartiality

Teachers are always free from biases. They don’t show under favour to someone. All should be equal for them.

In classroom teacher deal with various kind of pupil having poor and higher power of understanding. He may have to repeat his lesson many time because some pick up lesson easily and quickly while the other need time. Thus the teacher should possess the patience.

9.3-8: Teacher is a good Guide, Self Confidence, and Self analysis

Teacher is director, he steers the boat but the energy the propels it must come from those who are learning. Aurobindo Writes ‘The first principle of true teaching is that nothing can be taught. His task is to suggest, not to impose.

Teacher must be full of confidence. He should be confident of his capacity to solve the problems the he may face. A effective teacher also have the self analysis capacity means he can judge his own power of capacity. Thus it is very important equipment for the teachers.

9.3-9: Optimistic and Positive Attitude towards Life

Dr. E.A. Pires thinks that the teachers who can infuse happiness into the work of his because he himself enjoys his work is sure to be a successful and popular teacher. The great teacher lives and breathes the spirit of creativity and adventure. He always be hopeful of achieving success and take up job with courage. Teacher should have faith on the potentiality of the child.

9.3-10: Sociability

The teacher must possess the quality of sociability, motivated by a social philosophy. He is socially acceptable, possessing good quality of leadership and having respect for other.

Self Check Exercise-2

Q-1: Write two qualities of a good teacher.

Q-2: According to Aurobindo, “The first principle of true teaching is that nothing can be taught”.

True/False

Q-3: Which of the following should not be a personality trait of a teacher?

1. A teacher has to be very active in and outside the class in the school which requires sound physical health
2. A teacher should not be hasty in his habits
3. A teacher should be amiable and friendly in his behaviour
4. A teacher should not take risk of experimenting with his teaching strategy.

9.4- Love for Profession

Teachers should feel the important of his profession. Without an exclusive attention to his job he would fail in bringing forth a fine harvest of young men and women who are able to contribute their best for the welfare of mankind. If teacher take his work just to earn living, then he well lack the essential zeal required by the teaching profession. In the words of Secondary Education Commission, “They will not take upon their work as an unpalatable means of earning a scanty living but as an avenue through which they are rendering significant social service as well as finding some measure of self fulfillment and self expression. Teachers should have following professional character.

9.4-1: Honesty for Profession

Teacher should be honest for his profession. He must have love for teaching profession. He should have inner urge for teaching profession. He possesses the profession by heart and soul. ‘Once a teacher, always a teacher be his motto. He always tries to get mastery over his subject. He have optimistic and progressive outlook helpful in developing creativity among the children.

9.4-2 :Pre-service and In Service Teaching

Teachers must have profession training because it is not enough to know about the subject matter only. Pre service professional trainings are those educational

trainings which is imparted in training colleges and college of education. Purpose of these training is how to impart knowledge of subject matter by teacher to his pupil. It provide the concept of insight into the nature of child, manners of imparting instructions, techniques of teaching, how to manage the school and students, principles of education etc. All these are helpful for teacher to act as a guide for their future teaching.

In service training also required for the teachers. In service training is the training for the teachers during their service. Main purpose of these training is to aware the teachers with latest trends in teaching e.g. new method of teaching, new maximize of teaching new incidence in the field of teaching etc.

For this different kind of seminars, workshops, symposia, exhibition, extension lectures and guest lecture organized during service period.

9.4-3: Membership of Professional Organization

Teachers should become the member of professional organization. Function of professional organization is to advance the education ideals. They care about the welfare of children and young people. They try to improve teaching supervisory, administrative procedures. Think about the welfare of teachers.

9.4-4: Adopt appropriate, latest teaching method

Good methods are one which are psychologically and socially sounds. According to Secondary Education Commission, method of teaching not only effects the relation between teacher and student but also affects entire personally, standard of work and judgment, their intellectual and emotion equipment, attitude and values.

The effective teacher remains in touch with latest method of teaching and also uses them in classroom. The main purpose of teaching method is to make teaching interesting, effective, understanding. Teacher should have progressive outlook not the conservative outlook. He ought to denote some of his time in exploring new methods which may be of more help to him.

Self Check Exercise-3:

Q-1: Which of the following is not a characteristic of a teacher?

1. Sympathy
2. Communication
3. Creativity
4. Jealousy

Q-2: What are the views ofSecondary Education Commission, method of teaching?

1.5-Academic Character

A effective teacher through his action and behaviours always demonstrate the type of behaviour derived from him as a teacher. Teacher should have following academic qualities:

9.5-1: Mastery over subject

Teacher should have the complete knowledge about his own subject. If there is any weakness on any part of the subject then it may lower the prestige of teacher in the eyes of students. He must love his subject. According to university Education Commission – teacher who is not a master of the field, who is not in touch with the latest development in his subject and who does not bring to bear upon his duties a free and sound mind will never succeed in inspiring youth with the love of truth which is the principal object of all higher education.

9.5-2 Daily Preparation

Teaching is a profession which required systematic planning. Planning include systematic arrangement of the subject matter. For this lesson is prepared by the teacher. A well prepared lesson can overcome the feeling of nervousness and insecurity. However able and experienced is the teacher, he could do never without his preliminary preparation.

1.5-3 Democratic attitude and thirst for Knowledge

A good teacher adopts the democratic environment rather than the autocratic. Present education also laid stress to impart the democratic ideals in student. Role of teacher is as a friend, philosopher and guide and not as policeman. Student's role is also very active.

Teachers must have a thirst for learning because learning is life long process started from birth to death. He should have the habit of using library, visiting exhibition seminars, museums refresher courses etc.

RabinderNath Tagore also said that 'A teacher can never truly teach unless he is still learning himself.

9.5-4 Skill of questioning and using material aids

Success of teaching process is also depends upon the art of asking questions. A teacher should have the efficiency in arranging, framing and asking relevant questions. A teacher, who is academically good, should have the knowledge of good skill of questioning.

Material aid is the teaching aid which is used by the teacher to making the teaching very effective, understanding, and interesting. Teaching aid bring the clarity and vividness. Teacher should have the knowledge of skill about the teaching material.

9.5-5: Good voice, Memory and Fluency in Expression

Voice of teacher should be clear, loud, moderately pitched. A thin voice may develop dullness and monotony in the class. A best voice for the classroom is one which is clear, pleasantly toned, fairly even in its general pitch and yet capable to modulation in order to express different shade of meaning and emphasis.

9.5-6 Memory: Teacher with poor memory is ridiculous. Teacher memory should be sharp to correlate many things. A good memory is the quality which makes the person different from the other person.

Teacher must have the fluency in expression in speech as well as in writing. His pronunciation must be good. Power of the expression is the one of the most important quality that should be present in all the teachers. So that they can express himself clearly. It is the most important tool used in teaching. Without expression teaching process can't be imagine.

Self Check Exercise-4

Q-1: A good teacher adopts the democratic environment rather than the ……...

(Fill in the blank)

Q-2: Teaching is a profession which required systematic planning. True/False

Q-3: The teacher was glorified by the phrase friend, philosopher, and guide because-

1. He teaches the students the high values of humanity.
2. He is a great patriot
3. Both 1 and 2
4. None of the above

9.6-Summary

Teachers play very important role in teaching. In fact it is the most related factor influencing student achievement. Several studies have found a positive effect of experience on teacher effectiveness; specifically, the "learning by doing" effect is most

obvious in the early years of teaching. Success of teaching process is also depends upon the art of asking questions. A teacher should have the efficiency in arranging, framing and asking relevant questions. A teacher, who is academically good, should have the knowledge of good skill of questioning. A best voice for the classroom is one which is clear, pleasantly toned, fairly even in its general pitch and yet capable to modulation in order to express different shade of meaning and emphasis. Pre service professional trainings are those educational trainings which is imparted in training colleges and college of education

9.7-Glossary:

1 Emotionally balanced-Emotional Balance, also referred to as Emotional Self-Control, and is a competency under the Self-Management domain. People with strengths in Emotional Balance find ways to manage their impulses and emotions, even in stressful situations.

2. Learning by doing-Learning by doing is a theory that places heavy emphasis on student engagement and is a hands-on, task-oriented, process to education. The theory refers to the process in which students actively participate in more practical and imaginative ways of learning.

3. Ridiculous- Stupid or unreasonable and deserving to be laughed

4. Symposia: A meeting or conference for the discussion of some subject, especially a meeting at which several speakers talk on or discuss a topic before an audience..

5. Exhibition: An exhibition, in the most general sense, is an organized presentation and display of a selection of items.

9.8- Answers to self check exercise:

Self- Check Exercise-1

Ans-1: Skilled and trained teacher

Self Check Exercise-2

Ans-1:Sympathy and wisdom

Punctuality and self analysis

Ans-2: True

Ans-3: A teacher should not take risk of experimenting with his teaching strategy.

Self Check Exercise-3:

Ans-1: Jealousy

Ans-2**:** Method of teaching not only effects the relation between teacher and student but also affects entire personally, standard of work and judgment, their intellectual and emotion equipment, attitude and values.

Self Check Exercise-4

Ans-1 Autocratic

Ans-2 True

Ans-3 He teaches the students the high values of humanity

9.9-References and suggested readings:

Apter,Michael-‘ New technology of Education’, Macmilan,1968.

Bigge,M.I. and M.P.Hunt(1962)- Psychological foundation of Education. An Introduction to Human Development and Learning-Harper and Row, New York, 530pp.

9.10-Treminal Questions:

1. What do you mean by the term teacher? Discuss the qualities of a good teacher in detail?

2. Discuss the role of teacher in the changing scenario.

3. How can you say that teacher acts as a transmitter of knowledge?

UNIT -10

ROLE OF TEACHER IN CHANGING SCENARIO

STRUCTURE:

10.1-Introduction

10.2-learning Objectives

10.3. Role of teaching in changing Scenario

Self-Check exercise-1:

10.3.1 Teacher as a Facilitator of Knowledge

10.3.2 Teacher as a Model

10.3.3 Teacher as a Facilitator

Self-Check Exercise-2:

10.4 Role of teacher as a Negotiator and Co-learner

Self Check Exercise-3:

10.5 Summary

10.6 Glossary

10.7 Answers to Self-Check exercise

10.8 References and suggested readings

10.9 Terminal Questions

10.1 INTRODUCTION:

Teacher is a good instructor, coach, tutor, guide, trainer, mentor, educator, handler; A 'Teacher is a person' who delivers on educational program, assesses student

performance or participation in an educational program and administers. We can also provide consistent and substantial leadership to an educational program. Teacher is expected to be that he may imbibe high values of life among the pupils and also should have high qualities. We can serve the people, nation and human race if he has competences of high order. **Gandhi** observes, "Woe to the teacher who teaches one things with the lips and carries in the heart. Teacher's character should be that there is no difference between what they say and do. Teacher has always to realize that his actions are being watched by his pupils. The role of the teacher is best explained by the following thinners. Teacher develops a learning environment that is relevant to and reflective of their student's social, cultural and linguistic experiences. They act as guides, mediators, consultants, instructor, and advocates for the students helping to effectively connect their culturally and community based knowledge to the classroom learning experiences.

According to S. Radhakrishan, "The teachers place in society of vital importance. He acts as the pivot for transmission of intellectual traditions and technical skills, from generation to generation and helps to keep the lamp of civilization burning."

According to HumayunKabir, "Teachers are literally the arbiters of a nation's destiny.

Whole system of education is revolves around the teachers. Teacher is the architect of the school work. A teacher is a facilitator because teacher is one who does not only operate under the traditional concept of teaching but also guide and assist students in learning for themselves picking apart ideas, forming their own material through self-exploration and dialogue.

10.2 LEARNING OBJECTIVES

After studying this topic student will be able to know about:

The role of teacher in changing Scenario

The role of teacher as a transmitter of knowledge.

Teacher role as a model.

Teacher role as a Negotiator and co learner.

10.3-ROLE OF TEACHING IN CHANGING SCENARIO

Teacher plays a critical role in the development of young people around the world. Teachers by and for are undervalued and underappreciated, but few people would argue that they are not necessary. The role of the teacher is multifaceted and seemingly ever expanding. Teaching is a more complex profession than most people realize.

A role is a set of ideas and expected behaviour associated with social status that defines its relationship with another position in a social system. In every society individuals play a number of different social roles according to the varying context of their activities.

The role of teacher is build around a set of ideas about teachers in relation to student's and vice versa.

Teachers are facing an avalanche of frequently disconnected calls to reform, to do things differently. Some teachers strive to make sense "of both the inconsistencies and the new ideas when they make daily instructional decisions. Sometimes they are successful and create equality learning experience for their students, sometime throw up their hands in frustration. Many other teachers make their decision based on their immediate needs to comply, survive, conform, or meet a time constraint. They follow the textbook, give students work sheets to keep them occupied and do the same lesson year after year.

Self-Check exercise-1:

The role of teacher is build around a set of ideas about teachers in relation to student's and vice ……..

10.3.1-: Teacher as a Facilitator of Knowledge

According to Piagetion theory, human can't be given information which they immediately understand and use. They may 'construct' their own knowledge through experience. In the Vedic period, teacher standing at the front of students to give lecture and students were passive listeners. But as the time passed, people developed different concepts regarding the learning theories. Now it believes that no lesson can be done effectively without an interaction in the classroom. Teacher develops a learning environment that is relevant to and reflective of their student's social, cultural and linguistic experiences. They act as guides, mediators, consultants, instructor, and advocates for the students helping to effectively connect their culturally and community based knowledge to the classroom learning experiences. Role of the teacher as a facilitator of knowledge is discuss as below:

1. Provide the solution or answer of any problem.

2. Helpful in giving direction to chose what kind of information is suitable for which kind of context because in today world so many different kinds of sources of knowledge are available?

3. Teacher gives the ideas about what are the rules of communication and now deal with new channel.

4. They provide relevant skill so as to get to the relevant information they need on the web.

5. Coming to an agreement with the students from the start of a course that they will not be 'spoon fed' information, but will instead be expected to take responsibility.

6. Encouraging critical analysis of information e.g. strategies, helping students to notice relevant linguistic patterns.

7. Encouraging students to access knowledge for themselves and becoming experts in particular subjects.

8. Encouraging collaborative learning – group projects, peer mentoring.

9. Using coaching techniques e.g. those that help students to come to their own conclusions through rigorous questioning.

e.g. if the teacher wants to give the information about the 'culture' than he may provide through following assumptions:

Have students share artifacts from home that reflect their culture.

Have student write about tradition shared by their family.

Ask student to research different aspect of culture.

Vary teaching approaches to accommodate diverse learning style and language proficiency.

Ask student to participate in book clubs or literature circle.

Advise to the student for group discussion.

10.3.2-: Teacher as a Model

Model or role model is a person who inspire and encourages us to strive for greatness, live to our fullest potential and see the best in ourselves. A role model is someone use admire and someone we aspire to be like. We learn through them,

through their commitment to excellence and through their ability to realize for our own personal growth. We look to them for advice and guidance. A model can be anybody: a parent, a friend but some of our most influential and life changing model are teachers.

Teachers help us to grow as people are responsible for imparting some of life's most important lessons. Teachers are founts of experience. They have already been where their students are going, undergone. What they will go through and are in a position to pass along lesson, not only regarding subject matter, but lesson on life also. Following are the qualities of teacher which make him model for other –

1. A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn itself own flame.

2. A teacher who has come to the end of his subject, who has no living traffic with his knowledge, but merely repeat his lesson to his student can only load their mind.

3. Every teacher knows that even the best curriculum and most perfect syllabus remain dead unless quickened into life by the right method of teaching and right kind of teachers.

4. Teacher is the real maker of history and maker of man.

5. Teacher understands the need of every child for material education, education for becoming good human being and for divine education so that they can face the realities of life in the new millennium.

6. He works for the promotion of patriotism and education for national integration and also for international understanding.

7. They work for good quality education to transform the students into self reliance and self assured citizen of the world.

8. Role models are those people who set good example by the words they speak and by the action they take.

9. The ideal teacher is one who through his thoughts, words of deeds, gives an impression of an honest upright life which can serve as a model for the student to copy, follow and emulate.

10. Teacher have good personality like self confidence, excellence appear, healthy, energetic, good intellect, high character etc.

10.3.3-Teacher as a Facilitator

We are all think about a teacher to act as a leader in the classroom and society. Essentially, these are the people who tell us how to think and what to think about. They show us how to relate the subject matter and give us example to understand their messages while this is a common view we have when considering the role of teacher in a classroom setting, it is not accurate when we hear about a teacher as a facilitator of learning. A teacher is a facilitator because teacher is one who does not only operate under the traditional concept of teaching but also guide and assist students in learning for themselves picking apart ideas, forming their own material through self-exploration and dialogue.

Main character of teacher due to which a teacher is regarded as facilitator are –

1. Effective listening
2. Genuine
3. Understanding
4. Respect
5. Intelligence
6. Skill in personal Communication

1. Effective listening: Give attention to what is being said – particular words, body language and non-verbal expressions, vocal tones, process and timing.

Try to feel how the person is feeling and thinking.

Attempt to become involved in how the speaker perceives the world.

Validate recognition by checking with the person or reflecting what was said.

Listen to disclosures without rushing the person.

2. Genuine

Direct personal encounter, person to person.

Defensiveness or retreating are minimal and heal sharing in maximized.

Roles are recognized as role of not used to distance one another.

Feeling are admitted and recognized, those which are positive and those which are less comfortable but just as real-anger sadness, joy, fruit ration, place, need for solitude.

The right to disagree is valued, honoured offered in peace.

3. Understanding

Empathy describes true understanding – becoming immersed in how a student feels rather than how we feel they may feel or should feel.

Reading the clues and cues another sends and validating them.

Perceive what is being expressed to eliminate defensive stances or withdrawal.

Involve the student in learning to understand self and more toward understanding other.

4. Respectful

Accept students as experiences as important to him/her.

Practice respect of others as a part of the classroom system and process.

This is often shown through optimism and deep interest and concern.

Task analyze the time when student don't show respect to each other or the teachers to better set up the procedure, drills which will enhance the use of respect with other.

5. Knowledge/Intelligence

Extensive knowledge of subject taught

Have of knowledge and learning with a desire to share the law and the skill.

Knows when to emphasize on learning by sharing personal insights and when to allow student exploration and personal discovery.

Become involved in learning about cultural background of students.

6. Communication

Communication skills are very important and literary simple and straightforward set of behaviors. Young people can be taught to communicate using these behaviours, and are quite good at doing so. Because of the pace of development of empathy and the ability to know one care how others feel, it focuses on empathy and understanding to become an equal part of the communication process. This does not suggest that teaching children a set of skill will teach them to communicate, but it does suggest that the skills can be put in place and the other facts will come together over time and as a result of social and emotional development.

Self-Check Exercise-2:

Q-1: Human can't be given information which they immediately understand and use. Who said this?

1. Skinner

2. Kohler

3. Aristotal

4. Piaget

Q-2: According to the behavioristic school of psychology, the teacher is:

1. A classroom facilitator
2. Storehouse of knowledge
3. A leader in the classroom
4. Creator of favorable learning conditions.

Q-3: Which of these is a communication skill?

1. talking at the same time as someone else
2. Listening to what people say.
3. putting your fingers in your ears

10.4- Role of teacher as a Negotiator and Co-learner.

Good negotiator always prepare as much as possible. Best among many options – experts create many possible options before choosing the best ones upon which to structure the deal. Innovative learning is highly effective. Negotiating, in particular, is best learned by negotiation.

Negotiator is not a skill that built into DNA, it is something which a person have come to realize that he live in a planet with limited resources. There is formal structure of negotiation that we use to establish boundaries, jurisdiction or resource allocation.

Qualities of Teacher as Negotiator

1. Never accept any proposal immediately, no matter how good it sounds.

2. Never negotiate with own self. Get a counter offer.

3. Learn the skill of negotiation – before teaching the skill, teacher should have the efficiency in skill.

4. Be a good example to your children – children can learn with example.

5. Create situations where the children can learn how to negotiate. Although we care presented with many instances to negotiate, children need some supervision in going through the process.

6. Realize that they need to resolve on their own issues. This is opportunity – driven situation.

7. Praise them to build confidence. Teach children with confidence by praising their achievement.

8. Mistakes are inevitable, move on teach them the adversities are part of life and that sometime the fail.

Teacher as a Co-learner

Expectation of students and the demands of the education community are changing. The role of the teacher is changing. Former models were heavily teacher centered. They have always emphasized collaborative techniques, but the role of the teacher remained largely transmitter or facilitator of the content.

New models cost teachers into the role of facilitator, collaborator and significantly, “Co-learner” Rather than an information provider.

Co-learning is a philosophy of teaching.

1. Scaffold builder and critical reflection enhance.

2. Facilitator of learning.

3. Help in telling answers.

4. Help in learning.

5. He always accept the responses of students like

(a) That is a great question! Let’s look it up.

(b) I don’t know the answer to that question what do you think? How can we find the solution?

(c) I have never heard of that before ----- tell me more about that will help us to solve their problem.

(d) If you are not sure how to spell that word, what are some resources that could use to help you?

(e) Where should be look in the book to find information on that topic.

Self Check Exercise-3:

Q-1:Which of these is not a form of communication?

1. talking
2. washing
3. body language
4. listening

Q-2: Teacher is a most important factor in nation building. True/False

Q-3: The Pillar of teaching are

1. Curriculum

2. Instruction

3. Assessment

4. All of the above

1.5-Summary

Purpose of these training is how to impart knowledge of subject matter by teacher to his pupil. It provide the concept of insight into the nature of child, manners of imparting instructions, techniques of teaching, how to manage the school and students, principles of education etc. All these are helpful for teacher to act as a guide for their future teaching. Teacher should be emotionally balanced. If the teacher suffer from any kind of tension and conflict than it is not good for his mental health. Unhappy, depressed teacher can't help their pupil to become happy, satisfied and well adjusted young persons. Because of the pace of development of empathy and the ability to know one care how others feel, it focuses on empathy and understanding to become an equal part of the communication process. Teacher understands the need of every child for material education, education for becoming good human being and for divine education so that they can face the realities of life in the new millennium. He works for the promotion of patriotism and education for national integration and also for international understanding. They work for good quality education to transform the students into self reliance and self assured citizen of the world.

10.6-Glossary:

1. **International understanding:** International Understanding is the ability to observe critically and objectively and appraise the conduct of man everywhere to each other, irrespective of the nationality of culture to which they may belong.

2. **Communication process:**The communication process refers to the steps and elements involved in the successful transmission and understanding of a message between a sender and a receiver. It includes the exchange of information, ideas, opinions, or emotions through various channels or mediums.

3. Patriotism: Patriotism is the feeling of love and attachment to one's country, along with a sense of unity with other patriotic citizens.

4. Self reliance: Self-reliance is the trust in one's own efforts and abilities, without relying on others or external factors.

10.7-Answers to Self-Check Exercise:

Self-Check exercise-1:

Ans-1:Versa

Self-Check exercise-2:

Ans-1: Piaget

Ans-2: Creator of favorable learning conditions.

Ans-3: listening to what people say.

Self Check Exercise-3:

Ans-1:Washing

Ans-2: True

Ans-3: All of the above

10.8-References and suggested readings:

Davies, Ivork-‘ Management of learning,’ Psychological Perspectives, Prentice hall,1965.

Fleming C.M. - Teaching a Psychological Analysis, London,’1969.

Green Thomas, F. (1971) - The Activities of Teaching, McGraw Hill Company, London, 234pp.

10.9-Treminal Questions:

1. What do you mean by the term teacher? Discuss the role of teacher in the changing scenario.

2. Discuss the role of teacher as a Co-learner.

3. How can you say that teacher acts as a negotiator?

Unit-11

Concept, Principles and Maxims of Teaching

Meaning and Characteristics of Profession, Professional Ethics for the Teachers

Structure:

11.1-INTRODUCTION

11.2-Learning Objectives

11.3-Concept and type of teaching

Self –Check Exercise-1:

11.4-Types of Teaching

Self –Check Exercise-2

11.5-Characteristics of Teaching

11.6-Objectives of Teaching

Self –Check Exercise-4

11.7-Maxims of Teaching

Self –Check Exercise-4

11.8-Principles of Teaching

11.9-Explanation of Principles of Teaching

Self-Check Exercise-5:

11.10-Summary

11.11- Glossary

11.12- Answers to self check questions

11.13-References and suggested readings

11.14-Terminal Questions

11.1 INTRODUCTION

It is an accepted fact that teachers are usually not born but made. Good teachers nurture their knowledge and skill through constant and deliberate efforts. One of the pre-requisite to be good teacher is to understand the teaching process in more depth. This facilitates better appreciation of the teaching profession as well as the process of imparting education.

Teaching is a process in which ideas, beliefs, thoughts are taught by a person. Teaching includes all the activities of providing education to other. The person who provides education is called teacher. Generally the teacher uses different method for giving best knowledge to his students. He tries his best to make understand students. His duty is to encourage students to learn the subjects.

11.2-LEARNING OBJECTIVES:

At the end of topic student will be able to

Know the meaning of teaching.

Know about the principle and maximum of teaching.

11.3-Concept and type of teaching:

Teacher, Student and Education are the three aspects that come in to front in the teaching learning process.

It is not easy to define the process of teaching in single sentence because teaching is also influenced by the political and social background of the country. There are many educationists who complimented their definitions about teaching. All the educationists tried to define the meaning of teaching.

According to Gage, “Teaching is a form of interpersonal influence aimed at changing the behaviour potential of another person.”

According to Edmund Amidon, “Teaching is an interactive process, primarily involving class room talk which takes place between teacher and pupil and occurs during certain definable activity.”

According to Brebacher, “Teaching is an arrangement and manipulation of a situation in which an individual will seek to overcome and from which he will learn in the course of doing so.”

According to Skinner, “Teaching is the arrangement of contingencies of reinforcement.”

According to Pyans, “Teaching is concerned with the activities which are concerned with the guidance or direction of the learning of others.”

From the above definition it is concluded that teaching is a process that improve the student’s seeking level more easily and it might be overcome any situation as an easy way. Teaching is a systemic enquiry about the ultimate realities in the universe. It is a study to general principles and understanding of all that comes in the range of human experiences.

Self –Check Exercise-1:

Q-1: Teaching is the arrangement of contingencies of reinforcement. Who said this?

1. Skinner.
2. Kohler
3. Thorndike
4. Mahatma Gandhi

11.4-Types of Teaching

There are mainly two types of teaching. These are:

1. Formal Teaching
2. Informal Teaching

1. Formal Teaching

Formal teaching is a teaching which is teaching which is systematic deliberate direct and consciously impart by specially. It is classroom based, provided by trained person like teachers. It is organized; guided by a formal curriculum, lead to a formally recognized credential. Teachers are usually trained as professionals in some way.

2. **Informal Teaching**

It is the kind of teaching get the outside of classroom. No formal curriculum and no credits earned. The teacher is simply someone with more experience such as a parent, grandparent or a friend. A father teaching his child to play games or a baby Vitter teaching a child their ABC's is an example of informal education.

Teaching profession is greatest of all as it is very noble to impart education to others. Teaching is nothing but brushing the knowledge and wisdom already possessed in students.

Teaching involves showing, telling and demonstrating knowledge or skill which is unknown to the observer, hearer or follower. In a broad sense, teaching implies everything that needs to be learnt from a mentor.

Self –Check Exercise-2

Q-1: Mainly how many types of teaching are there?

1. 3
2. 5
3. 4
4. 2

Q-2: Teaching profession is greatest of all as it is very noble to impart education to others.

True/False

11.5-CHARACTERISTICS OF TEACHING

According to various opinions it is convey that teaching is sharing of knowledge among students and teacher. A good teaching means there will be a practice of encouraging contact between students and faculty encouraging active learning, giving prompt feedback and respecting talent and ways of learning.

Teaching is a process where students are treated as consumers of knowledge. Teaching includes motivation, encouragement and character building of the students. For good teaching the curriculum, lesson plan is also required that should be interested. Process of teaching is continuous. Teaching is not confined to the educational institution only.

Teaching is absolutely a noble profession as told by Dr. Sarvapalli Radhakrishanan, it mainly involves in the future of a student.

There are the different modes of teaching

1. Conditioning – shaping behaviour and habits.

2. Training – Shaping conduct and skills

3. Instruction – Communication of knowledge.

4. Indoctrination – Formation of beliefs

Character of Teaching is as follow

1. **Aim of teaching is to draw out** – Teaching is based upon the aim of drawing out the best in learner not to inculcate in learner.

2. **Co-operative** – Teaching is the co-operative process include co-operation of teacher and taught. This process is not possible without their co-operation.

3. **Out of teaching is learning** – Good teaching involve the helping the pupil to learn do the things himself. Thus the output teaching is learning.

4. **Need adjustment** – Teaching requires the adjustment between the learner and teacher because teaching is the social phenomena.

5. **Preparation for life** – Good teaching prepares the children for life. The immature child is to be developed physically, intellectually, emotionally, spiritually to enable him to participate in the social life of the community. Teaching has to secure this preparation.

11.6-Objectives of Teaching

There are many objectives of teaching:

1. **Knowledge**

The pupils acquire knowledge of various terms, concepts, events, ideals, problem solving techniques, eminent personalities.

2. **Understanding**

The pupils develop understanding of terms, facts, events, principles. A teacher helps the students to understanding of various things by teaching.

3. **Critical thinking**

The pupils develop the ability of critical and logical thinking.

4. **Practical Skill**

The pupils develop practical skills helpful in the understanding of historical events.

5. **Interests**

The pupils develop interest in the study and understanding.

6. **Attitudes**

The people develop favourable attitude and the aptitude:

(a) Show interest towards other people, ways of life, ideas etc.

(b) Know about other religious and faiths.

(c) Establish relationship with other people.

(d) Cooperate with other in social and historical activities.

7. **Social, physical and mental development**

The major and main objective of teaching is to attain the social, physical and mental development of the child with various techniques.

Self –Check Exercise-3:

Q-1: What is the role of a school in building a healthy child?

1. Provide first aid kit to students when they get injured
2. Use a coordinated approach to develop, implement and evaluate healthy eating and physical activity policies and practices.
3. Arrange physical training periods
4. None of the above

Q-2: Which of the following is not the objective of teaching?

1. To help students to become better thinker
2. To follow a rigid plan.
3. Both 1 and 2
4. None of the above

11.7-Maxims of Teaching

Maxims of teaching are the universally facts found out by the teacher on the basis of experience. They are of universal significance and are trustworthy. The knowledge of different maxims helps the teacher to proceed systematically. It also helps to find out his way of teaching, especially at the early stage of teaching.

Following are the maxims of teaching.

1. **Known to unknown**

This maxim is based on the assumption that the student knows something. We are to increase his knowledge and widen his outlook. We have to interpret all new knowledge in terms of the old. It is said that old knowledge serves as hook on which the new one can be hung. Known is trustworthy and unknown cannot be trusted. So while teaching we should proceed from known and go toward unknown.

2. **Concrete to abstract**

It is difficult to teach the children about abstract things. If teacher teaches the students about concrete object, they will never forget the subject matter.

3. **Particular to General**

First of all a teacher should take particular statement then on the basis of those particular cases, generalization should be made. Suppose a teacher is teaching present continuous tense, he should first of all give a few examples of that tense and then on the basis of those make generalization.

4. **Empirical to National**

Empirical knowledge is based on observation and firsthand experience. Second is particular concrete and simple. We can see, feel and experience it on the other hand; rational is based on our arguments and explanation. So the safe approach in teaching is that we should proceed from less mental maturity to more mental maturity.

5. **Induction to Deduction**

Induction means drawing a conclusion from a set of examples.Whereas deduction is its opposite. The teacher should proceed from induction to deduction. For example, in English while teaching active voice into passive voice, the teacher should first convert a few sentences of active into the passive voice and on the basis of those conclude the general rule of active voice into passive voice.

6. **Psychological to logical**

While teaching the teacher should first keep in mind the interest, aptitude, capacities, development level of the children during selection of subject matter and then on to its logical arrangements.

7. **Actual to representative**

For teaching excellently, actual objects should be shown to the children as far as possible. It gives them concrete learning which is more desirable. The learners are able to retain it in their minds for quite a long time. Especially in the lower classes first hand information to the students impresses them. Representative things in the form of pictures, modals etc. should be used for the grown up or the senior who already familiar with the actual objects.

8. **Near to a far**

Every child is able to learn well in the surrounding to which he belongs. So the child should be acquainted fully with his immediate environment. Gradually he may be taught about those things which are far from his immediate environment. This principle, if kept in view, will smoothen the learning teaching process considerably.

9. **Whole to part**

In teaching the teacher should try to acquaint the child with the whole lesson first and then the different portions of it may be analyzed and studied intensively. This principle holds good while teaching a thing to the small children. At the early stages, the child loves to speak full sentences because in daily life situations, full sentences are used. The child should be given a full sentence. Then he may have full familiarity with the different words. Then he will have the knowledge of different letters forming the words.

10. **Definite to Indefinite**

In teaching definite things should be taught first because the learner can easily have faith in them. Then afterward he should give the knowledge of indefinite things. Definite things, definite rules of grammar help the learner to have good knowledge. Gradually he can be taught about indefinite things.

Self-Check Exercise-4:

Q-1: Write the name of two maxims of teaching.

Q-2: Learning by doing is based on

1. Inductive method
2. Project method.
3. Synthesis method
4. Analysis method

Q-3: Students use their fingers to calculate numbers. Which maxim is used there?

1. Simple to complex
2. Concrete to abstract.
3. Known to unknown
4. All of the above

11.8-Principles of Teaching

1. Effective teaching involves acquiring relevant knowledge about students and using that knowledge to inform our course design and classroom teaching.

2. Effective teaching involves aligning the three major components of instruction: learning objectives, assessment and instructional activities.

3. Effective teaching involves articulating explicit expectations regarding learning objectives and policies.

4. Effective teaching involves prioritizing the knowledge and skill we choose to focus on.

5. Effective teaching involves recognizing and overcoming our expert blind spot.

6. It involves adopting appropriate teaching role to support our learning goals.

7. Effective teaching involves progressively refining our courses based on reflection and feedback.

11.9-Explanation of Principles of Teaching

1. Effective teaching involves relevant knowledge about student

When we teach we do not just teach the content. A variety of student's characteristics can affect learning. For example students cultural and generational

background influence how they see the world, disciplinary backgrounds leads students to approach problem in different ways, students prior knowledge.

2. **Effective teaching involves aligning the three major components of instruction; learning objectives, assessments and instructional activities.**

Taking the time to do this upfront saves time in the end and leads to a better course. Teaching is more effective and students achieve learning objectives.

3. **Effective teaching involves articulating explicit expectations regarding learning objectives and policies**

There is amazing variation in the expectation of students across classrooms and even within a given discipline. For example, what constitutes evidence may differ across courses, what is permissible collaboration in one course could be considered cheating in another. As a result, student's expectation may not match ours. Thus, being clean about our expectation and communicating them explicitly helps students learn more and perform better.

4. **Effective teaching involves prioritizing the knowledge and skills we choose to focus on**

Coverage is the enemy: Don't try to do too much in a single course. Too many topics works against students learning, so it is necessary for us to make decisions – sometimes difficult ones – about what we will and will not include in a course.

5. **Effective teaching involves recognizing and overcoming our expert blind spots**

As experts, we tend to access and apply knowledge automatically and unconsciously and so we often skip or combine critical steps when we teach students, on the other hand, don't yet have sufficient background and experience to make these leaps and can become confused, draw incorrect conclusions, or fail to develop important skills.

6. **Effective teaching involve adopting appropriate teaching role to support our learning goals** – enough though students are ultimately responsible for their own learning, the role assume as instructs are critical in guiding students thinking and behaviour. We can take on a variety of roles in our teaching. There role should be chosen in service of learning objective and support of the instructional activities.

Self-Check Exercise-5:

Q-1: Write two principle of teaching.

Q-2: The best way to teach a concept to students is to proceed from…….

1. Difficult to simple
2. Known to unknown
3. Unknown to known
4. All the above

Q-3: The knowledge of principle of learning is must for a good teacher because:

1. It helps to make content interesting.
2. It helps in maintaining discipline
3. It helps to understand the content by simple method
4. It saves time

11.10-Summary

Lives of teachers are complex. In a typical school day teachers are asked to make great decisions and fulfill roles ranging from instructor to caregiver to public ambassador. These decisions and roles make teaching demanding but also very satisfying. Teaching profession is most important profession require the various effective skills. Teaching is an interactive process which includes two individual. One is imparting knowledge and second person getting or sharing that knowledge for the effective teaching. There is different type of maxims are followed such as simple to complex, concrete to abstract. Teaching also includes various types of principles. One should have to follow the maxims and principles of teaching to make teaching effective.

11.11-Glossary:

Concrete: Existing in a material or physical form

Abstract: Existing in thought or as an idea

Instructional activities- These are the methods: a teacher use to achieve the objectives

Trustworthy: Able to be relied on as honest or truthful

Demonstrate: Give a practical exhibition and explanation of (how a machine, skill, or craft works or is performed):

11.12- Answers to self-check Questions:

Self –Check Exercise-1:

Ans-1: Skinner

Self –Check Exercise-2

Ans-1: 2

Ans-2: True

Self –Check Exercise-3:

Ans-1: Use a coordinated approach to develop, implement and evaluate healthy eating and physical activity policies and practice

Ans-2: To follow a rigid plan.

Self-Check Exercise-4:

Ans-1: Concrete to abstract

Particular to General

Ans-2: Project method.

Ans-3: Concrete to abstract.

Self-Check Exercise-5:

Ans-1: Effective teaching involves prioritizing the knowledge and skill we choose to focus on.

Effective teaching involves recognizing and overcoming our expert blind spot.

Ans-2: known to unknown

Ans-3: It helps to make content interesting

11.13-References and suggested readings:

Helmastadlter, G.C. (1966) - Principles of Psychological Measurement, Mathuen Company Ltd. London, 248 pp.

Man,A.P. and Brustron,C.P. Education- 'Aspect of Educational Technology' London,Pitam,1969.

Peter, Laurences- 'Perspective Teaching, New York 1965.

11.14-Terminal Questions:

1. Discuss the concept of teaching.

2. What are the principles if teaching?

3. What do you mean by teaching? Discuss the maxims of teaching in detail.

Unit-12

Meaning and Characteristics of Profession, Professional Ethics for the Teachers

Structure:

12.1-Introduction

12.2-Learning Objectives

12.3- Professional Ethics for Teachers

12.4-Meaning and Characteristics of Profession

Self-Check Exercise-1

12.5-Teaching as a Profession

Self-check Exercise-2

12.6-Professional ethics for the teachers

12.7-Characteristics of Professional Ethics

12.8-Need and Significance of Professional Ethical Code

12.9-Suggested Ethical Code for Teachers

Self-Check Exercise-3

12.10-Summary

12.11-Glossary

12.12- Answers to Self-Check Exercise

12.13-References and suggested readings

12.14-Terminal Questions

12.1 INTRODUCTION

Teachers are the nation builders, creating the future pillars of our society. Valued as one of the most valuable professions in our society, teaching is a noble profession, opposition given to individuals who help us not only to build knowledge and gain experience but also to become a complete human being. Teachers enlighten us giving us the voice of consciousness. The nature of teaching is such that

only well-qualified individuals with the right mindset and strategies get to influence students with a productive learning environment. Professional teaching meaning is to have a systematic approach to teaching that is based on evidence-based practices. It involves planning and delivering instruction in a way that is effective for all students. Professional teachers are also committed to continuous professional development and to reflecting on their practice. They use a step-by-step method to teach their students such that it becomes easier for students to understand things and gain knowledge. Teaching is a process in which ideas, beliefs, thoughts are taught by a person. Teaching includes all the activities of providing education to other. The person who provides education is called teacher. Generally the teacher uses different method for giving best knowledge to his students. He tries his best to make understand students. His duty is to encourage students to learn the subjects.

12.2-LEARNING OBJECTIVES:

At the end of topic student will be able to

Know about the concept of teaching as a profession.

Meaning and characteristics of profession.

Know about the professional ethics for the teachers and role of teacher training in developing professionalism in teachers educators.

12.3- Professional Ethics for Teachers

12.4-Meaning and Characteristics of Profession

Teaching is considered as the noblest of all professions. A profession is an occupation or job that needs special knowledge. For example teaching, engineering, medicine, law etc. It implies specialized knowledge, strong motivation and high ethical standards. It is based upon specialized intellectual study and training. It attaches importance to knowledge, expertise, unity and solidarity among the practitioners. Meaning of profession can be further illustrated by high lighting its following characteristics.

1. **Social Service**

A profession has a unique, definite and essential social service to perform. It has concern for the welfare of society. The professional is motivated by a desire to serve mankind.

2. **Systematized knowledge and skills**

It has a common application of a body of systematized knowledge and skills.

3. **Control by practitioners**

There is a control by practitioners of admission to the professional standards of preparation and performance of its members.

4. **Specialized training**

There is a long period of specialized training before entry into professions. They develop competencies needed for the work. Profession requires expended professional preparation.

5. **License to practice**

Professional people obtain a state or university license to practice, to protect the public against unqualified or incompetent practitioners.

6. **Autonomy**

There is a high degree of autonomy in making decision about how to perform one's task. Members are free to exercise their own best judgment to solve certain problems.

7. **Personal responsibility**

There is broad personal responsibility for judgments made and acts performed. A large measure of autonomy implies an equal amount of responsibility.

8. **Life-Time work**

Profession is a life time work. Professional personnel tend to make their chosen work a life-time career. Teachers, doctors, engineers, advocates usually serve until they retire.

9. **Continuous study**

Members of professions continue to study and keep their knowledge up-to-date.

10. **A code of ethics**

Professionals are required to maintain certain code of ethics including standards.

Self-Check Exercise-1:

Q-1: What do you mean by the term profession?

12.5-Teaching as a Profession

With the knowledge of characteristics of a profession we are in a position to consider the importance of teaching as a profession.

1. **Largest Group**

There are more than 30 crore teachers in the world. Thus, teaching is the world's largest group engaged in any profession. In India, the total number of teachers at the school stage is more than 55 lakhs of which about 25 lakhs are women teachers.

2. **Role of Teacher**

Teacher has been regarded as the most vital factor in any system of education. He is the custodian and architect of our future, the nation builder, the backbone of society, the social engineer and the social worker.

3. **Teachers social status**

Teachers have been struggling for a better social status throughout the world. The social status of the teachers in the mind of the public is in the following order:

(a) A college/University teachers

(b) High-school teachers

(c) Primary school teachers

4. **Service Orientation**

Teachers satisfy the characteristics of service orientation. They claim that they do an important service to students and society. They are strongly professionalized. However, they lack any orientation in faulty selection and training.

5. **Standards on education**

As regards standards of education and training, teachers have no say. A whole host of institutions and agencies with considerable diversity determine the standards. Most teacher training programmes are not adequate; much is not suitable with the relation to classroom situations.

6. **Professional organizations of teachers**

As already stated a characteristic of a formation and running of well knit association for its practitioners is an activity which collectively works for the quality of professional service. The role of professional organization is three fold:

(a) To guarantee professional competence

(b) To raise the status of the profession.

(c) To guarantee professional conduct of its members.

There are international and national level organizations of teachers, both in India and elsewhere in the world.

7. **Professionalization of teaching**

A number of legal and academic steps have been taken to professionalize teaching:

(a) Pedagogy has been emerged as a specialized discipline.

(b) Qualifications in terms of content have gone up.

(c) Minimum qualifications of training have been laid down by the state education departments.

(d) Pay scales of teachers both at the school and college/university level have been raised.

Definitions

According to Ornstein and Miller, “Teaching is not a profession in the fullest sense. It does not possess many of the characteristics which professions are supposed to possess. At best, it can be viewed as an occupation in the process of achieving full professional status.”

Some suggestions for the improvement of the teaching profession:

1. **Equal treatment**

Teachers at all levels should be treated as equal.

2. **Equal opportunities**

All teachers should be given equal opportunities for developing and improving themselves.

3. **Contact with actual conditions**

Teacher's trainees should be kept in contact with actual conditions.

4. **Union of teachers**

Effective unions of teachers should be established to safeguard the interest of the teachers.

5. **Co-operation**

The administration should seek the co-operation of teachers in its work.

Self-check Exercise-2:

Q-1: A teacher is the …… in teaching.

1. Independent Variable.
2. Dependent variable
3. Both 1 and 2
4. None of the above

Q-2: A person can enjoy teaching as a profession when he-

1. Is better than your colleagues
2. Is getting respect from the students.
3. Is very close to high officials
4. None of the above

12.6-Professional ethics for the teachers

A code of conduct is a sophisticated version of do's and don'ts. Professional ethics gives a certain set of broad principles derived in turn from a spectrum of values which are arrived at after deep philosophical reflection on the nature and role of profession in the life of mankind. Some professions have formed professional councils at the national level. Every profession belonging to a society serves the interests of the society in its own way. Medical profession serves the people of the society for providing needed medical advice, help and assistance. Lawyers belonging to the legal profession provide legal advice and help to the needed people.

12.7-Characteristics of Professional Ethics

1. **Roles, duties and responsibilities**

Teachers should perform their roles, functions, duties and responsibilities honestly, sincerely and effectively.

2. **Obligations**

Teachers should effectively discharge their obligations towards students, parents, community, teaching profession and higher authorities.

3. **Devotion, dedication and Commitment**

Professional ethics for teachers implies devotion, dedication and professional commitment.

4. **Values and ideals**

To follow the values, beliefs, norms and ideals of teaching is another component of a professional ethics of teachers.

5. **Terms and Conditions**

To follow the terms and conditions of teaching profession is another salient feature of professional ethics of teachers. Professional ethics implies adherence to rules of conduct.

6. **No disagree**

Teachers should do nothing that cause disagrees to them personally or to the profession collectively.

7. **Professional development**

The personal development as well as professional development is the core of professionalism and forms the base of professional ethics.

8. **Ethical principles**

Professional ethics for teachers is a code of ethical or moral values like (a) honesty (b) Truthfulness (c) Moral stability (d) Good character (e) compassion (f) considerateness (g) Kindness (h) Sympathy (i) Social Service (j) Good manners (k) Purity (l) Humility (m) Self-discipline (n) Non-violence (o) Sense of responsibility (p) Tolerance

12.8-Need and Significance of Professional Ethical Code

1. It provides a check on the mal-practices prevalent otherwise in the working of the professionals.

2. It helps the professionals in knowing well their duties, responsibilities and obligations which they are supposed to carry on as a professional.

3. It may help the professionals in winning the confidence and faith of the people they are bound to serve through their profession and raise their status and dignity in their eyes.

4. It may help in enforcing right type of work environment and discipline among the profession including their proper adjustment to their world of work.

5. It may help the professionals in their proper professional growth, adjustment and satisfaction.

6. It may provide the needed self-direction and self-discipline among adjustment and satisfaction.

7. It may help the professionals to bring desired modification in their professional behaviour by putting the norms of their professional behaviour.

12.9-Suggested Ethical Code for Teachers

1. Toward's students

It shall be our primary duty to teach honestly and sincerely with devotion, dedication and commitment and guide students in the pursuit of knowledge and skills, prepare them in the ways of democracy and help them to become happy, useful and self-supporting citizens.

2. Toward's profession

It shall be our primary duty to take personal pride in teaching profession, to be devoted and dedicated to the profession, to participate and conduct in a professionally responsible manner in the acceptance and implementation of educational policies.

3. Toward's parents

It shall be our duty to share with parents the task of shaping each student's purposes and act towards socially acceptable ends. In fulfilling this obligation it shall be our duty to seek to establish friendly and co-operative relationship with the parents.

4. **Toward's community**

It shall be our primary duty to occupy a position of public trust involving personal conduct, interaction of the school and the community, operate these relationships in a friendly, co-operative and constructive manner.

5. **Toward's higher authorities**

It shall be our primary duty to seek promotion on the basis of merit not to use recommendations and back-door method, to conduct all business through proper channel, to refrain from discussing confidential and official information with unauthorized persons, to report all the matters detrimental to the welfare of the institute or to the authorities, not to use present service as a stepping stone for another, to give and expect due notice before a change of position is made.

Self-Check Exercise-3:

Q-1: Write two characteristics of professional ethics.

Q-2: Ethical values are associated with-

1. Social system.
2. Rule making
3. Devotional living
4. All of the above

Q-3: which philosopher suggested Wisdom, courage, temperance and justice as four cardinal virtues?

1. Aristotal
2. Acquinas
3. Socrates
4. Plato.

12.10-Summary: The teaching profession is considered to be one of the noblest professions in India. A teacher is a professional who works with students to help them achieve knowledge, competence, and virtue. Primary and pre-primary classes are kept informal because primary school teachers attempt to teach young children in a comfortable environment. Teachers are the ones who teach students to live life with discipline and high value. Let us discuss the meaning of professional teaching meaning, this means being well-qualified and using the right set of strategies and teaching methods to provide students with an effective learning experience. In-depth

Understanding of the teaching subject: one should have a proper understanding and command over the subject that they have to teach to the students. Communication: strong communication skills are highly needed in the teaching profession. Technical understanding: professional teaching means having basic technical understanding and using audio-visual tools to educate learners. Time management: managing time to plan and design lessons, conduct lectures, and take care of oneself too is important. Such examples can be found in both Western and non-Western countries. Teachers are chosen based on their credentials and expertise. After graduation, there are unique educational 1-2 year programs that train a candidate in teaching skills. These include assisting candidates in learning how to work with children and students, as well as motivating them to learn to become experts in their fields.

12.11- Glossary:

1.UnauthorizedPerson:
Without someone's official permission to do something or be in a particular place:

2. Orientation: The action of orienting someone or something relative to the points of a compass or other specified positions:

3. Back-door: A backdoor refers to any method by which authorized and unauthorized users are able to get around normal security measures and gain high level user access (aka root access) on a computer system, network, or software application."

4. Stepping stone: A raised stone used singly or in a series as a place on which to step when crossing a stream or muddy area.

Empathy: Teachers should know how to deal with students calmly, and make an emotional connection with the students too.

12.12- Answers to Self Check Exercise:

Self-CheckExercise-1:

Ans-1: A profession is an occupation or job that needs special knowledge. For example teaching, engineering, medicine, law etc.

Self-Check Exercise-2:

Ans-1:Independent Variable

Ans-2: Getting respect from the students.

Self-Check Exercise-3:

Ans-1**:** Obligations, Devotion, dedication and Commitment

Ans-2**:** Social system

Ans-3**:** Plato

12.13-References and suggested readings:

Bigge,M.I. and M.P.Hunt(1962)- Psychological foundation of Education. An Introduction to Human Development and Learning-Harper and Row, New York, 530pp.

Davies, Ivork-‘ Management of learning,’ Psychological Perspectives, Prentice hall,1965.

Fleming C.M. - Teaching a Psychological Analysis, London,’1969.

12.14-Terminal Questions:

1. What do you mean by profession? What are the characteristics of a good profession?

2. Write a short note on the professional ethics for the teachers.

Unit-13

Relationship between teaching and learning, Principles of effective teaching and learning, diverse teaching strategies for diverse learners.

13.1-Structure:

13.2- Introduction

13.3- Learning Objectives

13.4- Relationship between teaching and learning

13.4.1-Reasons or need for relating teaching to learning

13.-4.2-Teaching Principles based on the learning principles

13.4.3-Gage's view about Teaching-Learning relationship

Self-Check Exercise-1

13.5-Principles of Effective Learning and Teaching

13.5.1-Teaching Principles

13.5.2- Theory and Research-based Principles of Learning

Self-Check Exercise-2

13.6-Diverse teaching strategies for diverse learners

Self Check exercise-3

13.7-Learning Styles of Learners

Self Check Exercise-4

13.8-Summary

13.9- Glossary

13.10-Answers to self-check exercise

13.11-Refrences and suggested readings

13.12-Terminal Questions

13.2- Introduction: Teaching is guiding pupil's activity and training of emotions which promote learning. In the words of Burton, "Teaching is the stimulation, guidance,

direction and encouragement of learning."There can be no efficient learning without conductive learning situations. The principles are that effective learning and teaching: (1) is founded on an understanding of the learner; (2) requires active construction of meaning; (3) enhances and is enhanced by a supportive and challenging environment; (4) is enhanced through worthwhile learning partnerships; (5) shapes and responds to social and cultural contexts. The ways in which we teach young people exert a powerful influence on their linguistic, social, cognitive, and general educational development. Research suggests, for example, that effective instruction acknowledges students' gender differences and reaffirms their cultural, ethnic, and linguistic heritages. Many effective instructional approaches build on students' backgrounds to further the development of their abilities. Critically important is recognizing that the use of effective instructional practices as demonstrated by research will improve achievement for all children, including those who are not minorities or children of poverty. The implementation of sound, research-based strategies that recognize the benefits of diversity can build a better future for all of us.

13.3- Learning Objectives:

After the study of this chapter the students will be able to know about:

Relationship between teaching and learning.

Principles of effective teaching and learning.

Diverse teaching strategies for diverse learners.

Leaning styles for the learners.

13.4- Relationship between teaching and learning:

Teaching and Learning are integrally related to each other. They are in separable entities. They are supplementary and complementary to each other. They are like two sides of the same coin.

Teaching is causing the child to learn. It is the stimulating and direction of learning. It is helpful to the pupil to make effective adjustments. Learning is another name of making adjustments. Teaching is guiding pupil's activity and training of emotions which promote learning. In the words of Burton, "Teaching is the stimulation, guidance, direction and encouragement of learning."There can be no efficient learning without conductive learning situations. Good teaching means maximum learning. Whereas teaching should be made the central concern of the process of education (learning), the learning, in turn, should be made a central theme and goal for every teaching.

13.4.1-Reasons or need for relating teaching to learning:

Burton has given the following reasons for relating teaching to learning.

1. Effective teaching: Teaching can become effective only if it is related to learning.

2. Realization of teaching objectives:

Teaching objectives can be realized by creating appropriate learning situations. They cannot be realized without being related to learning situations.

3. Effective learning:

The appropriate teaching conditions and structures may be generated for effective learning.

4. Teaching Strategies:

Effective teaching strategies and tactics may be selected to achieve the optimal object of learning**.**

5**. Aid to understand teaching:**

The concept of relationship of teaching and learning will be an aid to understand the nature of teaching; teaching theories may be involved.

6. Effective teachers:

The knowledge of teaching learning relationship will be helpful for teacher educators to produce effective teachers.

13.4.2-Teaching Principles based on the learning principles:

Both teaching and learning have separate principles. But both depend upon each other's principles. Learning takes the help of teaching principles and teaching takes the help of learning principles**.** Good teaching is characterized by the observance of certain basic general and psychological principles. Like a skillful artist, a teacher should know these principles which would help him to acquire proficiency in his profession. These principles of teaching are, mostly based on the principles of learning. According to Yoakuna and Simpson the following are some of the important principles of teaching which are based on the principle of learning.

1. Good teaching involves skill in guiding teaching.
2. Good teaching is kind, sympathetic and cooperative.
3. Good teaching is well planned.
4. Good teaching is suggestive.
5. Good teaching is democratic.
6. Good teaching takes in to account the past experiences of the learner.
7. Good teaching is stimulating.
8. Good teaching diagnosis difficulties.
9. Good teaching is remedial.

10. Good teaching liberates the learner.

13.4.3-Gage's view about Teaching-Learning relationship:

Psychological forces are an aid to Teaching to bring effective learning. Gage classifies these forces under three categories.

1. **Forces for change of behavior:**

   The internal motivation is an important psychological force for the permanent change of behavior. In designing instruction, the teacher provides reinforcement (motivation) to the learner. Teaching and instruction can be made effective in terms of learning codes by using appropriate type of motivation.

2. **Learning conditions as a force:**

   Learning theories are not complete in themselves. The teaching and learning conditions are more useful than the learning theories. The teaching activities are designed and performed for creating appropriate learning conditions for the learner so that desirable change can be brought about.

3. **Cognitive force:**

   The pupil- behavior and learning objectives may be classified in to three domains. (1)Cognitive (2) Affective (3) Psychomotor. The change of behavior (learning) may be related to any of these domains. All the teaching activities are designed to develop these three domains.

Conclusion:

Teaching is assimilated to learning. Logically, teaching and learning may be separated but in terms of evaluation they are closely ties up and related to each other. All teaching is goal oriented and such a goal is always learning. Therefore, there are three possible relationships between teaching and learning.

Self-Check Exercise-1:

Q-1: Write two important principles of teaching which are based on the principle of learning.

1. Good teaching involves skill in guiding teaching.
2. Good teaching is kind, sympathetic and cooperative.

Q-2: Arrangement of content or topics elements in a sequence follows the maxim of-

1. Known to unknown
2. Simple to complex
3. Concrete to abstract
4. All of the above.

13.5- Principles of Effective Learning and Teaching.

For successful teaching it is essential to know how the pupils learn and by which methods they learn. Since the teaching methods and strategies are based on certain principles, therefore it is essential for a teacher to follow the principles of teaching. The principles are necessary to control the behaviour. The Queensland (Australia) Department of Education s "Corporate Plan 1994-98" identifies student learning and teaching as a key issue and includes effective learning and teaching as a corporate value. This document provides information on five guiding principles that have been formulated for the development and implementation of quality learning programs in Queensland state schools. The principles are that effective learning and teaching: (1) is founded on an understanding of the learner; (2) requires active construction of meaning; (3) enhances and is enhanced by a supportive and challenging environment; (4) is enhanced through worthwhile learning partnerships; (5) shapes and responds to social and cultural contexts. These principles are based on six assumptions: every person is a learner; learning is an ongoing and lifelong process; people learn within social and cultural contexts, independently and through interaction with others; what is learned depends on the way it is learned and with whom it is learned; the vital aspects of teaching include identifying the ways others learn best and extending the ways they learn, creating learning opportunities, and evaluating learning outcomes; and principles of effective learning and teaching provide the basis for ongoing improvement of learning and teaching practices. The principles of effective learning and teaching apply to all sectors of schooling. The effective principles of teaching and learning are discussed separately as under:

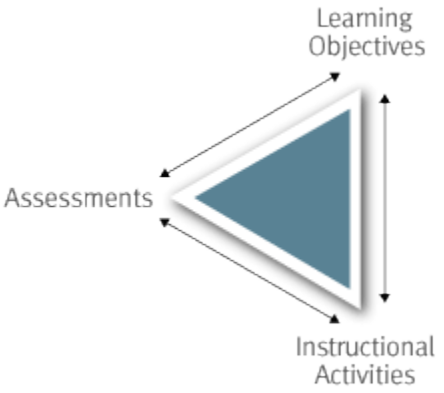
13.5.1-Teaching Principles

Teaching is a complex, multifaceted activity, often requiring us as instructors to juggle multiple tasks and goals simultaneously and flexibly. The following small but powerful set of principles can make teaching both more effective and more efficient, by helping us create the conditions that support student learning and minimize the need for revising materials, content, and policies. While implementing these principles requires a commitment in time and effort, it often saves time and energy later on.

1. **Effective teaching involves acquiring relevant knowledge about students and using that knowledge to inform our course design and classroom teaching.**

When we teach, we do not just teach the content, we teach students the content. A variety of student characteristics can affect learning. For example, students' cultural and generational backgrounds influence how they see the world; disciplinary backgrounds lead students to approach problems in different ways; and students' prior knowledge

(Both accurate and inaccurate aspects) shapes new learning. Although we cannot adequately measure all of these characteristics, gathering the most relevant information as early as possible in course planning and continuing to do so during the semester can (a) inform course design (e.g., decisions about objectives, pacing, examples, format), (b) help explain student difficulties (e.g., identification of common misconceptions), and (c) guide instructional adaptations (e.g., recognition of the need for additional practice).



2. **Effective teaching involves aligning the three major components of instruction: learning objectives, assessments, and instructional activities.**

Taking the time to do this upfront saves time in the end and leads to a better course. Teaching is more effective and student learning is enhanced when (a) we, as instructors, articulate a clear set of learning objectives (i.e., the knowledge and skills that we expect students to demonstrate by the end of a course); (b) the instructional activities (e.g., case studies, labs, discussions, readings) support these learning objectives by providing goal-oriented practice; and (c) the assessments (e.g., tests, papers, problem sets, performances) provide opportunities for students to demonstrate and practice the knowledge and skills articulated in the objectives, and for instructors to offer targeted feedback that can guide further learning.

3. **Effective teaching involves articulating explicit expectations regarding learning objectives and policies.**

There is amazing variation in what is expected of students across American classrooms and even within a given discipline. For example, what constitutes evidence may differ greatly across courses; what is permissible collaboration in one course could be considered cheating in another. As a result, students' expectations may not match ours. Thus, being clear about our expectations and communicating them explicitly helps students learn more and perform better. Articulating our learning objectives (i.e., the knowledge and skills that we expect students to demonstrate by the end of a course) gives students a clear target to aim for and enables them to monitor their progress along the way. Similarly, being explicit about course policies (e.g., on class participation, laptop use, and late assignment) in the syllabus and in class allows us to resolve differences early and tends to reduce conflicts and tensions that may arise. Altogether, being explicit leads to a more productive learning environment for all students.

4. Effective teaching involves prioritizing the knowledge and skills we choose to focus on.

Coverage is the enemy: Don't try to do too much in a single course. Too many topics work against student learning, so it is necessary for us to make decisions – sometimes difficult ones – about what we will and will not include in a course. This involves (a) recognizing the parameters of the course (e.g., class size, students' backgrounds and experiences, course position in the curriculum sequence, number of course units), (b) setting our priorities for student learning, and (c) determining a set of objectives that can be reasonably accomplished.

5. **Effective teaching involves recognizing and overcoming our expert blind spots.**

We are not our students! As experts, we tend to access and apply knowledge automatically and unconsciously (e.g., make connections, draw on relevant bodies of knowledge, and choose appropriate strategies) and so we often skip or combine critical steps when we teach. Students, on the other hand, don't yet have sufficient background and experience to make these leaps and can become confused, draw incorrect conclusions, or fail to develop important skills. They need instructors to break tasks into component steps, explain connections explicitly, and model processes in detail. Though it is difficult for experts to do this, we need to identify and explicitly communicate to students the knowledge and skills we take for granted, so that students can see expert thinking in action and practice applying it themselves.

6. **Effective teaching involves adopting appropriate teaching roles to support our learning goals.**

Even though students are ultimately responsible for their own learning, the roles we assume as instructors are critical in guiding students' thinking and behavior. We can take on a variety of roles in our teaching (e.g., synthesizer, moderator, challenger, and commentator). These roles should be chosen in service of the learning objectives and in support of the instructional activities. For example, if the objective is for students to be able to analyze arguments from a case or written text, the most productive instructor role might be to frame, guide and moderate a discussion. If the objective is to help students learn to defend their positions or creative choices as they present their work, our role might be to challenge them to explain their decisions and consider alternative perspectives. Such roles may be constant or variable across the semester depending on the learning objectives.

7. **Effective teaching involves progressively refining our courses based on reflection and feedback.**

Teaching requires adapting. We need to continually reflect on our teaching and be ready to make changes when appropriate (e.g., something is not working, we want to try something new, the student population has changed, or there are emerging issues in

our fields). Knowing what and how to change requires us to examine relevant information on our own teaching effectiveness. Much of this information already exists (e.g., student work, previous semesters' course evaluations, dynamics of class participation), or we may need to seek additional feedback with help from the university teaching center (e.g., interpreting early course evaluations, conducting focus groups, designing pre- and posttests). Based on such data, we might modify the learning objectives, content, structure, or format of a course, or otherwise adjust our teaching. Small, purposeful changes driven by feedback and our priorities are most likely to be manageable and effective.

13.5.2- Theory and Research-based Principles of Learning

The following list presents the basic principles that underlie effective learning. These principles are distilled from research from a variety of disciplines.

1. **Students' prior knowledge can help or hinder learning.**

Students come into our courses with knowledge, beliefs, and attitudes gained in other courses and through daily life. As students bring this knowledge to bear in our classrooms, it influences how they filter and interpret what they are learning. If students' prior knowledge is robust and accurate *and activated at the appropriate time*, it provides a strong foundation for building new knowledge. However, when knowledge is inert, insufficient for the task, activated inappropriately, or inaccurate, it can interfere with or impede new learning.

2. **How students organize knowledge influences how they learn and apply what they know.**

Students naturally make connections between pieces of knowledge. When those connections form knowledge structures that are accurately and meaningfully organized, students are better able to retrieve and apply their knowledge effectively and efficiently. In contrast, when knowledge is connected in inaccurate or random ways, students can fail to retrieve or apply it appropriately.

3. **Students' motivation determines, directs, and sustains what they do to learn.**

As students enter college and gain greater autonomy over what, when, and how they study and learn, motivation plays a critical role in guiding the direction, intensity, persistence, and quality of the learning behaviors in which they engage. When students find positive value in a learning goal or activity, expect to successfully achieve a desired learning outcome, and perceive support from their environment, they are likely to be strongly motivated to learn.

4. **To develop mastery, students must acquire component skills, practice integrating them, and know when to apply what they have learned.**

Students must develop not only the component skills and knowledge necessary to perform complex tasks, they must also practice combining and integrating them to develop greater fluency and automaticity. Finally, students must learn when and how to apply the skills and knowledge they learn. As instructors, it is important that we develop conscious awareness of these elements of mastery so as to help our students learn more effectively.

5. **Goal-directed practice coupled with targeted feedback enhances the quality of students' learning.**

Learning and performance are best fostered when students engage in practice that focuses on a specific goal or criterion, targets an appropriate level of challenge, and is of sufficient quantity and frequency to meet the performance criteria. Practice must be coupled with feedback that explicitly communicates about some aspect(s) of students' performance relative to specific target criteria, provides information to help students progress in meeting those criteria, and is given at a time and frequency that allows it to be useful.

6. **Students' current level of development interacts with the social, emotional, and intellectual climate of the course to impact learning**.

Students are not only intellectual but also social and emotional beings, and they are still developing the full range of intellectual, social, and emotional skills. While we cannot control the developmental process, we can shape the intellectual, social, emotional, and physical aspects of classroom climate in developmentally appropriate ways. In fact, many studies have shown that the climate we create has implications for our students. A negative climate may impede learning and performance, but a positive climate can energize students' learning.

7. **To become self-directed learners, students must learn to monitor and adjust their approaches to learning.**

Learners may engage in a variety of metacognitive processes to monitor and control their learning—assessing the task at hand, evaluating their own strengths and weaknesses, planning their approach, applying and monitoring various strategies, and reflecting on the degree to which their current approach is working. Unfortunately, students tend not to engage in these processes naturally. When students develop the skills to engage these processes, they gain intellectual habits that not only improve their performance but also their effectiveness as learners.

Self-Check Exercise-2:

Q-1: Explain one teaching principle based on the principle of learning.

Q-2: The knowledge of principle of learning is must for a good teacher because-

1. It helps to make content interesting.
2. It helps in maintaining discipline
3. Both 1 and2
4. None of the above

13.6-Diverse teaching strategies for diverse learners

That minority and low-income children often perform poorly on tests is well known. But the fact that they do so because we systematically expect less from them is not. Most Americans assume that the low achievement of poor and minority children is bound up in the children themselves or their families. "The children don't try." "They have no place to study." "Their parents don't care." "Their culture does not value education." These and other excuses are regularly offered up to explain the achievement gap that separates poor and minority students from other young Americans.

But these are red herrings. The fact is that we know how to educate poor and minority children of all kinds—racial, ethnic, and language—to high levels. Some teachers and some entire schools do it every day, year in and year out, with outstanding results. But the nation as a whole has not yet acted on that knowledge. This topic describes a multitude of teaching strategies shown by research to be effective in educating diverse student learners. Diverse student learners include students from racially, ethnically, culturally, and linguistically diverse families and communities of lower socioeconomic status. If educators act on the knowledge research offers, we can realize the educational excellence we desire for all children. The broad range of experiences and perspectives brought to school by culturally, linguistically, and ethnically diverse students offer a powerful resource for everyone to learn more—in different ways, in new environments, and with different types of people. Every single person in this enormously diverse and ever-changing system has the power to serve as an invaluable resource for all others—students, teachers, and the community as a whole. Rather than constituting a problem for students and educators, the growing diversity in U.S. classrooms necessitates and encourages the development and use of diverse teaching strategies designed to respond to each student as an individual.

The United States is fortunate, for it includes not only immigrants but also political refugees, indigenous Americans, and descendants of people (sometimes brought

against their will) from every continent on the globe. This boundless diversity has resulted in the inventions, discoveries, ideas, literature, art, music, films, labor, languages, political systems, and foods that enrich American culture. These same resources also have the potential for enriching the American classroom. Immigrant students bring us opportunities to be explored and treasures to be appreciated, and they help us challenge the status quo.

The diverse teaching strategies for diverse learners are discussed as below:

1. Maintain high standards and demonstrate high expectations for all ethnically, culturally, and linguistically diverse students.

Students learn more when they are challenged by teachers who have high expectations for them, encourage them to identify problems, involve them in collaborative activities, and accelerate their learning (Burris &Welner, 2005). Teachers who express high expectations convey the belief that their students have the ability to succeed in demanding activities. Such teachers avoid repetitive rote learning; instead, they involve young people in novel problem-solving activities. They ask open-ended questions requiring students to use their judgment and form opinions. They choose activities where students must use analytic skills, evaluate, and make connections. They expect students to conduct research, complete their homework, and manage their time effectively.

Now that detracking and accelerated learning with support have been shown to be effective, teachers can confidently advocate for them. According to Mehan (2007), research has shown that the schools' practice of tracking neither provides students with equal educational opportunities nor serves the needs of employers for a well-educated workforce. Students from low-income and ethnic or linguistic minority backgrounds are disproportionately represented in low-track classes and they seldom move up to high-track classes. Students placed in low-track classes seldom receive the educational resources that are equivalent to students who are placed in high-track classes. They often suffer the stigmatizing consequences of negative labeling. They are not prepared well for careers or college. (p. 8)

2. Show students you care by getting to know their individual needs and strengths and sharing their concerns, hopes, and dreams.

Students tend to want to participate and do their best when a teacher is nurturing and caring. NelNoddings (1995) advocates that when society around us concentrates on materialistic messages, "we should care more genuinely for our children and teach them to care" (p. 24). Of course we want academic achievement for our students, she notes, but "we will not achieve even that unless our children believe they themselves are cared for and learn to care for others" (p. 24).

3. Understand students' home cultures to better comprehend their behavior in and out of the classroom.

Educators must understand and respect the many different ways of being a parent and expressing concern about the education of one's children. For example, Gibson (1983, 1988) reports that Punjabi immigrant parents in California believe it is the teacher's task to educate and that parents should not be involved in what goes on at school. Punjabi parents support their children's education by requiring that homework be done and ensuring that their youngsters do not "hang out" with other students but instead apply themselves to schoolwork. Even though the parents themselves may be forced to take more than one job, they do not allow their children to work so that they have time to complete their homework. As a result, Punjabi students as a group have higher rates of graduation and college acceptance than other immigrant groups.

4. Encourage active participation of parents or guardians.

Parents and guardians are a child's first teachers, but they are not always aware of the ways in which they mold children's language development and communication skills. Children learn their language at home; the more interaction and communication they have at home, the more children learn. Teachers can support this crucial role by sharing information about the link between home communication and children's learning.

For example, teachers can act as "culture brokers" by talking with parents to emphasize the key role they play in their children's education. Teachers can assist parents in understanding the expectations of the school and their classroom as they elicit from parents their own expectations of teachers and students. Teachers also can suggest ways in which parents might converse more often with their children to prepare them for communication in the classroom.

Parents may not be aware of how they support their children's academic efforts when they discuss the importance of education and take them to informal educational resources in the community. Teachers play an enormously important role in referring parents to community resources such as children's museums, art and science museums, and community-based organizations that offer homework help and arts and sports programs.

5. Tap into students' backgrounds to enhance learning

Students' self-esteem and motivation are enhanced when teachers elicit their experiences in classroom discussions and validate what they have to say. Young people become more engaged in lessons when they are brought into the initial dialogue by being asked what they know about the topic and what they want to know. If their questions are written down and used to form a guide for inquiry into the topic, students are far more likely to be interested in doing further research than if the questions simply come out of a text. The teacher also obtains a better understanding of students' previous knowledge about a subject—a pre-assessment, as it were—that can guide the planning of the subsequent lesson.

6. Choose culturally relevant curriculum and instructional materials that recognize, incorporates, and reflect students' heritage and the contributions of various ethnic groups.

Students' self-esteem is strengthened when they see and read about the contributions made by their own racial or ethnic groups to the history and culture of the United States. Whenever possible, teachers adapt the curriculum to focus lessons on topics that are meaningful to students. This kind of focus allows students to practice language, thinking, reading, and writing skills in real, meaningful, and interactive situations. Students also come to realize that teacher’s value and appreciate each child's culture and language.

7. Identify and dispel stereotypes

If the teacher allows sexist or racist language and stereotypes to pass unchallenged, students will be harmed in two ways: (1) by the demeaning depiction of their group, which may become part of their self-concept and (2) by the limitations they will feel on their ability to live and work harmoniously with others in their classroom and in their society.

Teachers can select texts or supplementary materials to address the issue of stereotyping. The supplementary materials should be written by a variety of authors who incorporate a wide range of perspectives on historical events, poetry, artwork, journals, music, and illustrations of women and men, as well as varied ethnic and racial groups. Teachers also can point out sexist language and ethnic, racial, or gender stereotypes in everyday instructional materials.

8. Use cooperative learning strategies

One of the most difficult issues faced by teachers in multiethnic classrooms is that students, particularly those from ethnic groups suffering social discrimination, tend to cluster in cliques based on ethnicity. Students may observe that one peer group draws itself apart and, in reaction, may come to feel that they must do so as well.

To break down this defensive withdrawal into ethnic groups, teachers need to give students time to get to know each other and to find that they share common ground, common problems, and common feelings. One way to break down artificial barriers between students is to encourage them to participate in a small group over an extended period of time, collaborating on a shared activity with a shared goal that can only be achieved by working together.

Children who have an opportunity to work in cooperative learning groups with fellow students of other races and ethnicities get to know those students as real people rather than as stereotypes. As students learn together and get to know one another, mutual respect and friendships can develop.

9. Capitalize on students' cultures, languages, and experiences

Learning is more likely to occur when young people's expectations about how to interact with adults and other children match the teachers' and administrators' expectations for such interaction.

Saravia-Shore and Martinez (1992) found that Puerto Rican high school dropouts who had succeeded in an alternative high school credited their increased achievement to the difference in the way adults treated them in each school. They reported that they felt they were treated as children in the regular high school, but the staff members of the alternative school treated them as adults.

10-Integrate the arts in the curriculum

Nothing makes learning come alive more than engaging students in arts activities that encourage dialogue on issues that are important to them. Providing opportunities for students to express themselves through the visual and performing arts enables them to learn about and develop their talents and multiple intelligences: not only verbal and

mathematical intelligences but also visual, spatial, musical, interpersonal, and intrapersonal intelligences (Gardner, 1983).

11-Promote students' health

Caring for students includes positively influencing their decisions related to their physical well-being. Congress passed the Child Nutrition Act in June 2004, requiring school districts to craft "wellness" policies. Such policies should include goals for nutrition education and ways to increase the physical activity of all students.

Educators who are aware of the growing epidemic of childhood obesity and diabetes are alarmed. According to Klein field (2006a, p. A1), "One in three children born in the United States [in 2001] are expected to become diabetic in their lifetimes, according to a projection by the Centers for Disease Control and Prevention. The forecast for Latinos is even bleaker: one in every two."

12-Establish truly bilingual classrooms

Students who come to school with a home language other than English learn more from programs in which their native language is one of the languages of instruction. By continuing to learn subject content in their native language, the students do not fall behind in their academic subjects while acquiring English. Potentially bilingual students who are in developmental or late-exit bilingual programs for five years seem to progress at a faster rate in subjects presented in English than do their counterparts in early-exit bilingual programs.

When potentially bilingual students continue to learn in their home language while learning English, they continue to develop cognitively and acquire skills (such as reading) that can later be transferred to English. Once they have learned vocabulary in English, they can comprehend what they decode. The context of learning is more difficult if instruction is entirely in a student's second language. Students taught solely in the second language also risk losing the opportunity to become bilingual and biliterate.

Self Check exercise-3:

Q-1: “One in three children born in the United States [in 2001] are expected to become diabetic in their lifetimes, according to a projection by the Centers for Disease Control and Prevention. The forecast for Latinos is even bleaker: one in every two." Who stated this?

1. Klein Field.
2. Rousseau
3. Skinner
4. All of the above

Q-2: Congress passed the Child Nutrition Act in –

1. June 2004.

2. December 2005

3 April2003

4. All of the above

Q-3: “Punjabi immigrant parents in California believe it is the teacher's task to educate and that parents should not be involved in what goes on at school.” Who reported this-?

1. Gibson 1983.
2. Ibrahim
3. Piaget
4. Cunnighum

13.7-Learning Styles of Learners:

As a result of comprehensive study of a variety of learning processes, it was observed that different processes yield different styles of learning. Some of them are highly complex and others are simpler in their nature and construct. In an effort to sequentially arrange them, the one given by Gagne (1970) has received maximum attention and is supported maximally by empirical evidences. In Gagne’s (1970) hierarchy of learning styles, each type has different preconditions and distinct learning conditions. The present topic deals with the basic concerns of learning styles in hierarchical order as follows:

Psychomotor Skills

Verbal knowledge

Concept learning

Teaching Principle

Problem solving

The learning of psychomotor chain as skill and the process of teaching for the same have been discussed below:

Dececco and Crawford quoted to emphasize the fact that new skill learning must be built on already acquired skills. Learning of new skills consists largely of coordinating into a single pattern of less complex skills that the students may have already learned like proper breathing, arm movement and leg movement in connection with other athletic activities. To learn to swim, he must simply combine these three subroutines into an overall pattern.

Skill learning depends partly upon one's previously learned less complex skills and partly on one's psychomotor abilities. According to Fleishman, a psychomotor ability is a general trait of the individual which is related to performance of a wide variety of skills. For example, manual dexterity and motor coordination is needed in assembling electrical appliances and motor coordination is needed in piloting an aircraft. Piloting an aircraft is a skill and it depends upon one's psychomotor abilities.

Concept and principles learning:

Underwood, during the course of his empirical investigation realized that the verbal learning and the concept learning have much in common. Gagne, through his elaborate researches affirmed the findings of Underwood. The present authors in their experience exclusively with the instructional designs on these aspects found that the instructional procedures of the verbal learning and concept learning are not clearly distinguished. Therefore, the present chapter does not play verbal learning separately and focuses only on concept learning out of the two.

A concept is a name for a class of stimuli which have common characteristics. These stimuli may be objects, events, persons, animals, ideologies, customs or thought processes. The names indicating objects like pen, paper, scooter, painting; events like war and peace, conference, experiment, project etc.; persons as boys, girls, politicians, etc. are all concepts. Ideologies like democracy and naturalism are concepts; customs like birthday celebrations are concepts. But the names of individual objects and events are not concepts. Just as the name 'a book' is a concept but name of particular book say 'Ramayana' is not a concept. The name to be a concept should refer to a class or group of objects. The term book refers to a class of similar objects, but the term Ramayana refers to a particular book, and so is not termed a concept. The concepts are the names of classes not of particulars, having a range of variations but sharing some common characteristics. These common characteristics are the identifying attributes. They specify the cases forming in a class. Youngman in a term used for a normal energetic man in the age group between 20-30 years. It includes backward castes, forward classes; it also includes educated-uneducated, tall-short and with many other

variations. The concepts are specified by names, which refer to a class of stimuli having common characteristics.

In such a description, the common characteristics are the identifying notes, they are referred to as concept attributes. Dececco and Crawford defined concept attributes as the distinctive features that vary from concept to concept. The concept of a Lake is distinguished from Sea or Ocean on one hand and from Pool and Pond on the other, on the feature of size. It is smaller than the former and larger than the latter in size, so size is an attribute for the concept of Lake.

The concepts vary in their attributes. Attribute values are particular variations, on which an attribute may undergo change. A lake may have several variations of size, a table may have several variations of form and a toy may have several variations of colour. In case of size, 30 square miles, 20 square miles and 10 square miles are the values of the attribute of size. In case of a table, office table, bed side table etc. are the variations of the forms of table and in case of toys, red, black, green and white are the variations of colour. These are attribute values.

When an attribute has a wide range of values, some other attributes can be used to identify the concept in question. In identifying a concept, some attributes are more prominent than others. The more prominent and obvious attributes of a concept are termed as dominant attributes.

Teaching of Principles:

The majority of our syllabi at any level contain concepts and principles. Principles are more advanced than concepts and so are more difficult to teach. The series of steps required to teach principles are enumerated and described as follows:

Step 1: Describes the performance expected of the student after he has learned the principles.

Step 2: Indicates which concepts or principles, the student must recall in learning the new principle.

Step 3: Assists the student in recall of component concepts.

Step 4: Helps the student to combine the components in proper order.

Step 5: Provide for practice of the principle and for reinforcement of students response.

Step 6: Assesses the learning of the principles.

Step 1: Describe the performance expected to the student after he has learned the principle:

As in other types of learning, this step provides teachers the direction to design teaching, develop assessment devices and allow students to monitor their own performance.

For instance, after observing a series of simple experiments demonstrating the behavior of gases on heating, the learner is able to infer that “Gases expands when heated.”

Step 2: Decide and indicate which concepts or principles are the prerequisites in learning the new principles:

One difficulty regarding this step is that the learning of one principle depends on the prior learning of another. There are, in fact hierarchies of principles, Gagne states, in hierarchies of principles two or more principles may be pre-requisite of the learning of super ordinate principles. Once the latter is learned, it may be combined with another principle to support the learning of skill higher order principle, and so on. A hierarchy may be called a structure of organized knowledge about the topic. Gagne and his associates found that the order in which topics is presented figures prominently in the student’s achievement of instructional objectives.

Step 3: Assists the students in the recall of component/concept principles:

This step deals with the actual teaching in the classroom. The students may be assisted with the help of prompts to recall the component concepts or lower order principles. For instances in learning the principle that “the pronoun “each” takes a singular verb”, the learner must be assisted to recall the concepts and examples of pronouns, and singular verbs.

In the learning of the principle “Gases expand on heating”, the learner must be assisted to recall the concepts of gases and expansion.

Step 4: Help the student to combine the components in proper order:

In this step students are directly asked to place the components in this proper order and monitor the responses. Teachers are supposed to tailor student’s responses and guide them to correct proper order. Sometimes the proper order will emerge quickly but sometimes, it may take longer in convincing/leading the student to the proper order. For instance in the example cited above, heating is the concept which precedes expansion of gases.

Step 5: Provide the practice of the principle and for reinforcement of student's responses:

In the event of optimum instructional conditions, a step like this is much needed. But learning conditions are not always optimum. Therefore, the teacher must monitor the student's practice and reinforce correct responses; reinforced practice is advised in suitable situations where learning of new principles is supposed to interfere with the already learned principles.

Step 6: Assess the learning of the principles:

This step refers to verification of the attainment of the objectives stated in the first step. Gagne (1966) emphasized the need of this step as an internal part of the instructional process. At this stage, the teacher ascertains how well the new capacity has been established.

Problem Solving:

Nature of Problem Solving:

The problem solving is not much different in nature from principle learning. Simply, it is more complex and requires higher abstractions. Gagne describes problem solving as a set of events in which human beings use some rules to achieve a goal i.e. solution of a problem. When in process of problem solving, a goal is achieved some learning is attained in the sense that individuals capacity to solve similar problems is more or less permanently changed. What emerges from problem solving is a pattern of principle or rules that are termed as higher order rules which afterwards became a part of individual's repertory. The same class of situation when encountered again may be responded to with much facility and is no more looked upon as a problem. Therefore, problem solving may be considered as a form of learning, distinct from all the lower levels of learning.

Problem solving is meant by "thinking out" a new rule/principle that forms a pattern of previously learned principles and adds in a lasting way to the competence of a student.

Empirical evidences show that the demonstration of the component principles, directions to use them, and the direction about the mode of establishing the solution were all necessary for the solution of the problem. Further evidence in this connection is concerned with the use of understanding method. It was found that though the method allows for larger number of errors, as they grew impatient and adopted the rote method and got confused because of their partial understanding, yet the gain in understanding due to transfer was superior.

Self Check Exercise-4:

Q-1: “New skill learning must be built on already acquired skills”. Who emphasized on this statement-

1. Dececco and Crawford.
2. Gagne
3. Pest logy
4. Mahatma Gandhi

Q-2: Which type of learners is good at activities like sports, dance, and martial arts etc.?

1. Visual learner
2. Auditory learner
3. Kinesthetic learner
4. All of the above

Q-3: Students learn best when activities:

1. are contextualized and have real life applications.
2. are irrelevant to students lives
3. Both 1and2
4. None of the above

13.8-Summary

Teaching is assimilated to learning. Logically, teaching and learning may be separated but in terms of evaluation they are closely ties up and related to each other. All teaching is goal oriented and such a goal is always learning. Therefore, there are three possible relationships between teaching and learning. These four learning styles are assumed to be acquired preferences that are adaptable, either at will or through changed circumstances, rather than being fixed personality characteristics.Learning styles refer to a range of competing and contested theories that aim to account for differences in individuals' learning. These theories propose that all people can be classified according to their 'style of learning, although the various theories present differing views on how the styles should be defined and categorized. A common concept is that individuals differ in how they learn. Teachers can encourage students to share aspects of their native cultures through assignments in social studies in which a particular country's history and culture is researched by a small group of students and then presented to the entire class to support student pride in their culture and learning about others. Other activities include building a classroom library of autobiographies and children's books in various languages, assigning Web sites where students can research their culture, or hosting international days that celebrate students' cultures.

13.9: Glossary:

International days: International days are always linked to the main fields of action of the United Nations, namely the maintenance of international peace and security, the promotion of sustainable development, the protection of human rights, and the guarantee of international law and humanitarian action.

Learning styles: Refer to a range of competing and contested theories that aim to account for differences in individuals' learning.

Afterwards: at a later or future time

Bilingual: able to use two languages equally well

13.10: Answers to Self-Check Exercise:

Self-Check Exercise-1:

Ans-1

1. Good teaching involves skill in guiding teaching.

2. Good teaching is kind, sympathetic and cooperative.

Ans-2: All of the above.

Self-Check Exercise-2:

Ans-1:

Effective teaching involves articulating explicit expectations regarding learning objectives and policies: There is amazing variation in what is expected of students across American classrooms and even within a given discipline. For example, what constitutes evidence may differ greatly across courses; what is permissible collaboration in one course could be considered cheating in another. As a result, students' expectations may not match ours. Thus, being clear about our expectations and communicating them explicitly helps students learn more and perform better.

Ans-2**:** It helps to make content interesting.

Self Check exercise-3:

Ans-1: Klein Field

Ans-2: June 2004

Ans-3**:** Gibson 1983

13.11-REFERENCE AND SUGGESTED READINGS

Davies : Dorothy, R (1945), "The effect of Tuition upon the focus of Learning a Complex Motor Skill" Journal of Educational Psychology 36: 352-65.

DeCecco and Crawford (1977), "The psychology of learning and instruction" Prentice-Hall of India Private Limited, New Delhi 110001.

Andelin, J., Naismith, N. C., Roberts, L. G., Feuer, M., Fulton, K., St. Lawrence, J., &Zuckerkandel, M. (1987).*Trends and status of computers in schools: Use in Chapter 1 programs and use with limited English proficient students*. Washington, DC: U.S. Congress Office of Technology Assessment.

Arvizu, S. F. (1992). Home-school linkages: A cross-cultural approach to parent participation. In M. Saravia-Shore and S. F. Arvizu (Eds.), *Cross-cultural literacy: Ethnographies of communication in multiethnic classrooms* (pp. 37–56). New York: Garland.

Au, K. H. (1980, Summer). Participation structures in a reading lesson with Hawaiian children: Analysis of a culturally appropriate instructional event. *Anthropology and Education Quarterly, 11*(2), 91–115.

Carver, C.S. &Scheier, M.F. (1998). On the self-regulation of behavior. New York: Cambridge University Press.

Clement, J.J. (1982).Students' preconceptions in introductory mechanics. American Journal of Physics, 50, 66-71.

13.12-Terminal Questions

Explain different learning styles of learners.

Explain the meaning of psychomotor skills.

Discuss the relationship between teaching and learning.

Justify the need of relating teaching to learning. How will you distinguish between teaching and learning?

How will you discuss diverse teaching for diverse learners?

What are the principles of effective teaching and learning?

Unit-14

Stages/Phases of Teaching

Structure:

14.1-Introduction

14.2-Learning Objectives

14.3-Operations involved in phases of teaching

14.4- Pre- active phase of teaching operations

Self –Check Exercise-1

14.5-: Operations at the interactive stage of Teaching

Self-Check Exercise-2

14.6-: Operations at the post active stage of Teaching

Self- Check Exercise-3

14.7- Summary

14.8-Glossary

14.9- Answers to Self-Check Exercise

14.10-References and suggested readings

14.11-Treminal Questions

14.1-Introduction:

Teaching is not a simple task. The successful completion of the teaching act needs a systematic planning and careful execution. Teaching has to proceed in sequential steps or stages. These steps or stages are known as phases of teaching. Jackson divides the teaching act into three stages or phases:

1:-PRE-ACTIVE PHASE

2:-INTER-ACTIVE PHASE

3:- POST-ACTIVE PHASE

14.2-Learning Objectives:

After the study of this chapter the students will be able to know about:

Meaning and concept of different phases or stages of teaching.

Meaning and operations involved in Pre-active stage of teaching.

Meaning and operations involved in Inter-active stage of teaching.

Meaning and operations involved in Post-active stage of teaching.

14.3-Operations involved in phases of teaching

The operations of teaching are most important because these operations create the situation for learning. The operation of teaching can be divided into three phases:

Philip W.Jackson analyses the teaching systematically in three stages

Stage1 pre-active phase of teaching

Stage 2 inter-active phase of teaching

Stage3 post-active phase of teaching

The each phase of teaching involves specific type operations. These have been discussed as under:

14.4- Pre- active phase of teaching operations:

It is the stage of planning of teaching. All that a teacher plans before going to classroom to deal with students or to teach.

In pre active stage of teaching the following operation or sub stages are involved.

1 Formulation goals

The teacher formulates in detail the instructional or teaching objectives in behavioural terms by using taxonomy of educational objectives. These objectives are of two types entering behaviour of learners and terminal behaviour of learners.

2 Arrangement of the ideas and Styles of Teaching

The teacher has to arrange sub contents in a logical sequence in such a way that it should function empirically. It means subcontinents should be so arranged that it should facilitate the transfer of learning.

3 Decision making about the strategies of teaching

The teacher has to select appropriate strategies of teaching keeping in view nature and structure of the content and objectives of teaching. This operation is very important in teacher education programme. Such skills and abilities should be emphasizing during the teacher training courses.

4 Decision making about the subject matter

The teacher decides about the content to be taught to the students and structure of the content at understanding and reflective level. This decision is based on the following considerations:

A. Demand of the curriculum prescribed for the students

B. The entering behaviour and needs of the students.

C. Level of motivation of the learners.

D. Development of teaching strategies

The teacher has to decide beforehand or in advance about strategies, the tactics which he has to use during the course of his classroom teaching. When will he use questioning, when lecturing; when will he/she show pictures, charts, models and when will he use blackboard; when recapitulation or evaluations etc.

Self –Check Exercise-1:

Q-1**:** Who distinguished between pre-active and inter-active phases of teaching?

1. Philip Jackson.
2. Thorndike
3. William .H
4. All of the Above

Q-2: Philip Jackson distinguished between pre-active and inter-active phases of teaching in …….

1. 1966.
2. 1970
3. 1976
4. 1967

14.5-: Operations at the interactive stage of Teaching: The interactive stage of teaching includes all those behaviors, activities which a teacher uses after entering the classroom. The interactive stage involves all activities in presenting the subject-matter.

According to P.W. Jackson [1966]

During the Interactive phase: “The teacher provides pupil verbal stimulation of various kind, make explanations, ask questions, listen to student responses and provide guidance.”The following activities are at interactive stage of teaching-

Sizing up the class

Diagnoses of the learners.

Action or reaction [initiation or response].

Selection of stimuli.

Selection of stategies.

Development of statergies.

Sizing up the class

As the teacher enters the class, he perceives the size of the class and moves his eyes on the faces of the students. He locates or identifies spot which may be troublesome or helpful for him. He identifies which faces are discouraging or encouraging to him. Thus he tries to size up the class group before the teaching. Similarly, the students also size up the personality of teacher within a few initial seconds. The stage requires that teacher must look like a teacher first. His dress is more important.

Diagnoses of the learner

The teacher tries to diagnoses the level of their achievements in three areas;

Abilities, (b) Attitude and interest, (c) Academic background.

The diagnosis work may be done by asking some questions or by assessing their performances and behavior potential by providing opportunities for performing and behaving. Through verbal and non-verbal interaction, the students also get opportunity to assess and diagnose the abilities, aptitudes, attitudes, interest and behavior performance of their own responses and reactions for contributing towards effective interaction in the teaching act.

Action of achievement

Action and reaction process plays the central role in the task of classroom interaction. It is the actual interaction between the teacher and the taught. The moment the teacher goes in the classroom, non-verbal reaction starts between him and the students. With his speech starts the verbal reaction between the two. Through more questions put by

the teacher to the students, the reaction process gains momentum. When the students also put questions to the teacher, it makes teaching more effective for the students. Action and reaction makes teaching a success.

Selection of stimuli-The stimuli in the action or activity of teaching can be verbal as well as non-verbal (praise, gestures, expressions through face, eyes) the way the teacher stands and moves around, etc.

Presentation of the Stimuli- The teacher must know the three things in presenting the stimuli: (a) Form (b) context and (c) order or Sequence.

Feedback or Reinforcement-It is a condition which will increase the probability that particular response will be repeated in future. It may be of two types;

Positive Reinforcement - Which may increase the probability of occurring the desirable response or behavior, e.g., praise, appreciation, reward, knowledge of result, etc?

Negative Reinforcement -Which may decrease the probability of re-occurring the undesirable response or behavior?

Development of strategies- The strategies of reinforcing the students, of controlling their verbal and non verbal behaviour are used for imparting the subject-content effectively while a teacher teaches in the classroom.

Self-Check Exercise-2

Q-1: “The teacher provides pupil verbal stimulation of various kind, make explanations, ask questions, listen to student responses and provide guidance.” Who said this-

1. Aristotle
2. Kant
3. Rousseau
4. P.W.Jackson.

Q-2: Teaching is more effective when a teacher uses-

1. Lecture method

2. Demonstration method
3. Direct instruction
4. Interactive teaching.

14.6-: Operations at the post active stage of Teaching

Post- active stage of teaching is also known as the evaluative stage of teaching. It is related to both teaching and learning. This stage arises when the teacher left the class and tries to have a look back in to what happened in the class. He continues to think about the meanings and implications of episodes and events even after their disappearance as the interactive stage of teaching has ceased to operate. The teacher is an introspective mood. While doing so, he processes the reactions of the students towards the overall strategy used by him. Here he makes use of recall, recollection, short notes pertaining to events and episodes which occurred during the interactive stage. The teacher conducts the formal and informal evaluation of his teaching act in his own way. It becomes the basis for planning and implementation of the strategies during the subsequent encounter in the class. This is an evaluative phase of teaching .It includes the teacher task which evaluate student performance based on classroom teaching, the behavioural change of students are assessed at the end of teaching. The oral or written questions are asked at the third stage of teaching. The following are main operations at this stage of teaching.

Defining the exact dimensions of the behavioural change

The teacher evaluates the expected behavioural change with their actual behavioural change during his teaching. Most of the students emit the expected behaviour.

Selecting Appropriate testing Devices

The teacher chooses certain suitable testing techniques and tools to measure the various desired dimensions of behaviour. The test should be reliable, valid and objective in nature.

Changing or improving strategies of Teaching

The students testing result is also used for evaluating the effectiveness of instructions and teaching strategies. It may provide a basis for improving his teaching by reorienting his teaching and changing strategies of teaching.

Self- Check Exercise-3:

Q-1: What should be the main objective of teaching?

1. Prepare students to pass the examination
2. To dictate good notes

3. Provide required information regarding the subject
4. To develop thinking power of students.

Q-2: ……is an essential quality of the best teacher.

1. Strong subject knowledge

2. Genuine interest in teaching.

3. Language fluency

4. Good presentation

14.7-Summary:

All the stages of teaching are closely inter-related. They represent a continuous cycle of the teaching, influencing and directing each other. While analyzing the nature of teaching, we must not forget the continuity, unity and interrelatedness of these three phases of teaching. The development of teaching models is only in its infancy. A lot of work is to be done in its direction. A teacher must develop his own teaching models which help him to recognize effective teaching by employing his natural behavior patterns in such a way that he is able to engage in a unique magic of its own making. Teaching models may be useful for improving human relation and raising the standard of education. It is very difficult to compare different kinds of models because their approaches and goals are different. Theories need for us to develop our teaching models which may suit to our school. There is a great need for research in education which examines the dimensions of the instructional and nurturing effects of the various models on different types of students.

14.8-Glossary:

Interrelatedness: The state of being mutually related or connected

Strategy: A detailed plan for achieving success in situations such as war, politics etc.

Nurturing: To take care of, feed, and protect someone or something, especially young children or plants, and help him, her, or it to develop

Subsequent: Coming after something in time; following

14.9- Answers to Self-Check Exercise:

Self –Check Exercise-1:

Ans-1**:** Philip Jackson.

Ans-2: 1966.

Self-Check Exercise-2

Ans-1:P.W.Jackson.

Ans-2: Interactive teaching.

Self- Check Exercise-3:

Ans-1: To develop thinking power of students.

Ans-2: Genuine interest in teaching

14.10-References and suggested readings

Educational Technology byDr. J.S. Walia

Technological Foundation of Education by R.A. Sharma

Educational Technology Dr. S.P. Kulshreshtha

Advanced Psychology S.K. Mangal

14.11-Treminal Questions

1. What do you mean by Stages/Phases of teaching? Discuss all the three stages of teaching with examples.

2. Explain the operations of interactive stage of teaching. State the difference between pre-active and interactive stage of teaching.

Unit-15

Models of Teaching

Structure:

15.0-Introduction

15.1-Learning Objectives

15.3-Models of teaching

Self-Check Exercise-1

15.3.1-Characteristics of Model will help us in illustrating the meaning of model

Self-Check Exercise-2

15.3.2-FUNDAMENTAL ELEMENTS OF TEACHING MODEL

15.3.3-Glaser's basic Teaching model

15.3.4-Assumption and Rationale of Basic Teaching

15.3.5-Glaser's Basic teaching Model in terms of Fundamental Elements

Self-Check Exercise-3

15.4- CONCEPT ATTAINMENT MODEL (C.A.M)

15.4.1-BASIC ASSUMPTIONS OF CONCEPT ATTAINMENT MODEL

15.4.2-Concept attainment Model in terms of Elements

15.4.3-Principles of concept attainment model

15.4.4- Merits of concept attainment model

15.4.5-Demerits of concept attainment model

15.4.6-Suggestions for making the model successful

Self-Check Exercise-4

15.5-Advance Organizer Teaching Model

Self-Check Exercise-5

15.6-Problem solving Model

15.7-Classroom application

Self Check Exercise-6

15.8-Summary

15.9-Glossary:

15.10-Answers to Self-Check Exercise

15.11-References and suggested readings

15.12-Treminal Questions

15.1-Introduction: Models of teaching are designed to provide a framework for educators to organize their instructional strategies and enhance the learning experience of their students. The main purpose of models of teaching is to provide a structured approach for teachers to plan and implement effective teaching practices in their classrooms. These models act as the basis for the indoctrination of teaching theories and, therefore, teaching models contribute towards effective and interesting teaching. According to Joyce and Weil, “A model of teaching is a plan or pattern that can be used to shape curriculum (long-term courses of study), to design instructional materials, and go guide instruction in the classroom and other settings.”

According to Eggen, “Models are prescriptive teaching strategies designed to accomplish the particular instructional goal.”

These models are used to achieve the specific objectives of various school subjects and make them more effective and purposive. Teaching models are helpful to develop social efficiency, personal abilities, cognitive abilities and behavioural aspects of the students.... Read more at: https://www.adda247.com/teaching-jobs-exam/models-of-teaching/

15.2-Learning Objectives:

After the study of this chapter the students will be able to know about:

Meaning, types, need and elements of models of teaching.

Different models of teaching with their educational implications.

15.3-Models of teaching

A model for teaching is a tentative theory of teaching. Silverman differentiates between some of the functions of theories and models. A theory is a system in which the interaction among actual variables is explained, where as a model is an analogy and is evaluated by its utility. Analogy is an abstract entity, therefore it is a danger in the use of model to over generalize.

Now the focus of teaching model is teaching and learning both. Therefore efforts are being made to develop theories of teaching, but so far no final theory of teaching could be formulated.

The best way to proceed in formulating a theory of teaching is to begin with what is known about learning in the laboratory and in the classroom by adopting a model derived from a theory of learning B.F. Skinner revolved model: modification of behavior based upon his theory of operant conditioning.

Concept and Meaning of communication Model:

Mortenson's view:' In the broadest sense, a model is a systematic representation of an object or event in idealized and abstract form."

Models are generally in the shape of a diagram or graphical representation. There are mathematical models .Models are also known as metaphors .They permit us to see one thing in terms of another.

Self-Check Exercise-1

Q-1: What do you mean by the term Model of teaching?

15.3.1-Characteristics of Model will help us in illustrating the meaning of model:

1. Simplified view: The model is designed to provide a view of some complex phenomenon or process; so that basic properties/characteristics may be highlighted .It tries to provide simplification of the complex dynamics to help us better understand the components and process involving the communication behaviour.

2. Representation of reality: Model is representation of reality .It can be an object, event, happening, activity or a process

3. Picture of reality: Models are pictures of reality which a person perceives.

4. Creation of reality: Model is creation of reality, object, and event in terms of another.

5. Abstraction of reality: Model is an abstraction of reality to understand its essence in a context.

6. Arbitrary in nature: Model is arbitrary in nature as it is a form drawn based on some assumptions.

7. No details: Details are removed or eliminated in the process of abstraction.

8. Concentration on important factors: concentration remains on important factors.

9. Critical features: Model highlights critical features. There is less focus on other features.

10. Nature of communication: A particular communication model tries to clarify the nature of communication.

Types of communication Models

Important communication models are described as follows:

1. Aristotle's Model of communication

2. Lasswell's Model of communication

3. Shannon-weaver Mathematical Model

4. Schramm's Interactive Model

5. Barlo's Model of communication

6. Transaction Model of communication

7. Sawtooth Model of communication

8. Foulger's Ecological Model of communication

Self-Check Exercise-2:

Q-1: Write two characteristics of models of teaching.

15.3.2-FUNDAMENTAL ELEMENTS OF TEACHING MODEL

A Teaching Model generally consist of four fundamental elements

1. Focus: The term focus refers to the goal or objective of teaching .The teaching activities are oriented to achieve some goals.

2. Syntax: The syntax of the model involves a description or structure of activities.

3. Social System: The social system of a teaching model includes three things.

a) A description of the kinds of student teacher roles

b) A description of hierarchical relationship

c) A description of the kinds of norms are encouraged and student behaviour which is rewarded.

4. Support system: The support system is needed in order to create the environment specified by the model.

The support system includes two sources:

a) The role of specification for the teacher

B) Requirement of the substantive nature

Objectives of teaching models

Models of teaching serve the following purposes:

1. It may help a teacher to develop his capacity to teach more children and create conductive environment for them.

2. It may help curriculum –makers to plan learner centered curriculum which provides variety of educational experiences to children.

3. It may help to make to interesting and effective instructional material and learning sources.

4. It may stimulate to develop the new educational forms and educational opportunities which will replace the schools of today.

5. It may help in formulating a theory of teaching.

15.3.3-Glaser's basic Teaching model

Basic teaching model belongs to the category of psychological models of teaching. The basic teaching model was developed by Robert Glaser in 1962 on the basis of psychological principal. It provides a simple but fairly adequate conceptualization of the teaching process.

15.3.4-Assumption and Rationale of Basic Teaching

Glaser's basic teaching model is developed on the assumption that every lesson assumes some knowledge on the part on the learner. Through instructional procedure, the teacher guides the learner from entry behavior to terminal behavior. Instructional intent yields more and quicker change in behavior.

Components of Basic Teaching Model (steps of teaching)

Glaser's teaching model is called 'basic' because it attempts to explain the entire teaching process into the four basic components or parts, namely.

Instruction objectives, 2.Entering behavior, 3.Instrucition procedures, 4 Performance Assessment.

Components of Glaser's Basic Teaching Model

1. Instruction objectives: Instruction objectives are those objectives which the students are expected to achieve upon completion of a part of instruction. Instruction objective are formulated in behavioral terms. The behaviors are specified in terms of students performance.

Entering behavior: It is essential to determine the entering behavior of the learners before giving instruction. Entering behaviors include those characteristics which are essential pre-requisites for the program. In other words entering behavior implies the initial behavior of the student, i.e., before the beginning of instruction.

Instructional procedures: Instructional procedure is the third but the main component of this model. Instructional procedures describe the teaching process. They represent the methods of teaching, strategies and the teacher –student interaction.

Performance assessment: Performance assessment is related to the task of assessing the performance of the student. It consists of the test and observation used to ascertain how well the student has achieved the instructional objectives. At this step questions are asked to assess the student's learning.

15.3.5-Glaser's Basic teaching Model in terms of Fundamental Elements

1. Focus: Glaser's basic teaching model attempts to pin-point the four basic components, function, processes and activates comprising the entire teaching-learning process. These are:

(1) Instructional objectives.

(2) Entering behavior.

(3) Instruction procedures and

(4) Performance assessment.

The model also brings into light the sequence to be followed in the instructional process.

1. Syntax: Syntax of the model describes the model in action. Structure of the model is described as under:

(1) Fixing: the objectives: the objectives and goals which are to be achieved by using the model are fixed up.

(2) Determine the entering behavior: The entering behavior showing the understanding and background of the students is determined

(3) Carrying out the instructional behavior

(4) Determining the ultimate behavior

2. Principles of Reaction: This element of model refers how teacher will react to the different responses of the student in deferent situation.

(1) Principle of interdependence

(2) Principle of active involvement

(3) Principle of follow up

3. Social System: The model describes a teacher dominated classroom climate. The teacher formulates objectives, decides about the instructional strategy and techniques of evaluation.

Support system: Suitable and adequate type of environment acts as a support for the success of the model. In the

Glaser's Basic Model of teaching suitable teaching strategy are worked out keeping in view the aims and entry behavior of the learners.

Application: Being quite systematic and structured this model is applicable to all types of teaching learning situation. It is applicable in the wide variety of subjects and for all levels of students.

Self-Check Exercise-3:

Q-1: According to Blooms Taxonomy which of the following represents the highest level of internalization of values and beliefs in the affective domain?

1. Responding
2. Valuing
3. Receiving
4. Characterization.

Q-2: Schuman's model is an example of which type of teaching model?

1. Personal basic model
2. Behaviour Altering model
3. Information development model.
4. Social interaction model

15.4- CONCEPT ATTAINMENT MODEL (C.A.M)

The Concept Attainment Model of Teaching belongs to the category of Information Processing Models. This model was developed by J.S.Bruner, J.Goodrow and George Austine in 1956.Usually it is named as Bruner's Concept Attainment Model. The model emerged out of the study of thinking process in human beings.

15.4.1-BASIC ASSUMPTIONS OF CONCEPT ATTAINMENT MODEL:

1. Capacity of concept formation: Our environment is full of diverse things. It would have been for us to adjust in it if we had not been endowed with the capacity to discriminate, to categorize things in groups and to form concepts.

2. Reducing complexities: Categorizing things into groups reduces the complexities of the surrounding environment.

3. Elements of concept: A concept has three elements: (1) Examples, (2) Attributes, and (3) Attribute values.

(1) Examples: are instances of the concept. The examples may be positive or negative. In concept formation, examples of a concept are grouped together.

(2) Attributes: Attributes are the common features or characteristics. They help in placing the examples in the same category.

(3) Attribute values: Each attribute has an attitude value. To have clear understanding of these terms let us have an illustration. If the concept is ‘mango’ then each fruit is an example.

4. Same strategies: In categorizing or concept formation, although the content of categories may differ from culture to culture, yet all sets of concepts are the product of the same thought process.

5. Two components: The different things are put into categories on the basis of attributes. Categorizing activity has two components:

(1) The act of category formation.

(2) The act of concept attainment.

6. Determining the concept: In concept attainment, the concept is determined in advance and the task is to determine the elements of the concept.

7. Concept formation and concept attainment: Concept formation and concept attainment differ significantly in terms of thinking process. Consequently, they require different teaching strategies. Hilda Taba’s Inductive Thinking Model is an example of concept formation.

8. Reception and selection: In identifying the strategies used to attain concepts, a distinction should be made between the two learning conditions of selection and reception.

4.3-Strategies in Concept Attainment Model:

Bruner identified four strategies in concept attainment model:

Simultaneous scanning: In this technique, the subject used each positive instance, to deduce those combinations of attribute values which are no longer valid.

Successive scanning: In this strategy the subject makes an overall estimate of each characteristic of the concepts and tests each one by one. This is called successive scanning since the subject tests individual hypothesis about the correct characteristics one at time in succession.

Conservative focusing: In this strategy, each attribute is tested by selecting card that is different from a focus card in only one attribute. If the new card is still a positive instance, then the subject knows that the varied attribute is not part of the concept.

Focus gambling: In this technique, the subject focuses on a correct card, but varies more than one attribute at a time. If the subject encounters a negative instance; he cannot tell which attribute was essential.

15.4.2-Concept attainment Model in terms of Elements:

Focus: The main focus of the model is to develop inductive reasoning of the students. Burner and his associates orient their work for the description of a process by which the students discriminate the attributes of the things, persons, and events and place them into categories.

Syntax: Structure of the model has the following four phases.

Presentation of data: The first phase presents data before the students to speculate about the concept. At first the teacher explains to the students how the activity will go on. All types of instructions are made clear to the students.

Analysis of hypothesis: In second phase students analyze their strategies for attaining concepts in one phase. This phase has following sub-phases:

Formation of hypothesis: Different students form some hypothesis in their minds and they think of positive and negative examples.

Teacher's reaction: The teacher reacts to it saying whether it is right or wrong.

Rejection or confirmation of hypothesis: If it is wrong the hypothesis of some students stand rejected and whatever examples they have in their minds stand cancelled.

More examples: The student is able to think of a few more positive and negative examples based on the same hypothesis.

Closure: Phase third provides unorganized data. When among all the hypothesis one is rejected by the teacher, the students have before them many positive and negative examples of the concept.

Practice: The fourth phase gives an opportunity to practice. The students apply that concept.

Principle of reaction: During the process of teaching, the teacher has to react to the responses of the students at every step. Immediate check of wrong answers and acceptance of right answers is a must. For wrong answers, the teacher should immediately inform the students that it is wrong.

Social system: The teaching situations are moderately structures. The teacher has to control all actions of the class-room, but reasonable freedom is given for discussion within different phases of teaching.

Support system: The nature of data should be such that student may understand and identify the concept clearly. The lesson requires concepts which can be arranged so that concept may be drawn from the material.

Application: Concept attainment model is very useful in teaching the concepts through inductive reasoning. Different difficult concepts of various disciplines can be learnt easily by the learner. The model works effectively in class-room for language teaching and mathematics.

15.4.3-Principles of concept attainment model:

Bruner's concept attainment model is based on the following principles:

Principles of inductive teaching.

Principle of observation.

Principle of activity.

Principle of imaginary abilities.

Principle of application.

15.4.4-Merits of concept attainment model:

Development of reasoning: The model develops the power of reasoning of the students.

Development of imagination: It develops the imagination abilities of the students.

Intellectual development: The model helps the student's in the intellectual development.

Observation: It helps the students in making good observers.

Analytical abilities: The model develops the analytical abilities of the students.

Active participation: The students remain actively engaged among the teaching-learning process.

Self-study habit: The model develops the habit of self-study among the learners.

No strain: The students learn in a natural way without stress and strain.

Application: It enables the students to apply their knowledge in different situations.

15.4.5-Demerits of concept attainment model:

Absent-minded: Some students remain absent-minded. They do not concentrate on teaching-learning.

Wrong thinking: A student may have wrong hypothesis for some time. He may go on thinking in the wrong direction.

Non –participation: Some students may not take part in the teaching-learning process in the class.

15.4.6-Suggestions for making the model successful:

Small groups: Teaching should be carried on in small groups so that more students may find opportunities to take active part in the learning process.

Instructions: The teacher should give instructions to the whole class.

Examples: The teacher should give one or two positive or negative examples of the concept he wants to teach.

Formation of groups: Then a few groups may be formed with one monitor for each group.

Encouraging participation: Students of each group should be encouraged to take active part.

Guidance: The teacher should be visiting the groups. He should help and guide the students according to their needs and requirements.

Generalizations and conclusions: In the end, all the students may sit together in a big group.

Self-Check Exercise-4:

Q-1: Write one demerit of Concept Attainment Model.

Q-2: Who developed the concept attainment model?

1. J.S. Bruner
2. David Ausubel.
3. Jerome Bruner
4. Jean Piaget

Q-3: The main focus of Concept Attainment Model is to develop-

1. Inductive Reasoning

2. Deductive reasoning

3. Both 1 and 2

4. None of the above.

15.5-Advance Organizer Teaching Model

David P. Ausubel has developed Advance Organizer Teaching model. It is an approach to expository teaching.

Focus:

The main purpose of this model is to facilitate meaningful verbal learning and retention. It has two aspects- first is the development of teaching and second is to facilitate a critical approach of the ideas in the cognitive structure.

Syntax:

It has two faces the first phase is the presentation of the organizer which should be at a more general level, the second phase is the presentation of material itself.

Social system:

The teacher has to present the material in a meaningful sequence. It creates highly structure learning situation. The teacher exercise controls the intellectual structure.

Support System:

The advance organizer depends upon an integral relationship between the conceptual organizer and the rest of the content. The crucial aspects of teaching model are development of organizer and system of presentation. The structure of the material must be organized to that it relates to the organizer.

Classroom Application: It can be used for teaching every subject area but was developed to teach the verbal material rather than to develop skills and mastering of problem solving. It is a sanative model of teaching because it depends upon the advance organizer's functioning as a conceptual linkage from the linkage of material for the learner. It is an especially suited for written verbal material for imparting knowledge of a subject matter.

Self- Check Exercise-5:

Q-1: Advance organizer model is the contribution of:

1. Kohlberg
2. David Ausubel.
3. Jerome Bruner
4. Jean Piaget

15.6-Problem solving Model

Hilda taba has developed inductive teaching modal. This modal provides the backbone to studies curriculum.

Focus. The main focus of this model is to develop the mental abilities and give emphasis on concept formation. This involves cognitive tasks in concept formation.

Syntax- The teaching is organized in nine phase. The first three phases are concerned with the concept formation by involving enumeration, grouping and labeling categories. The second three phase are related to the interpretation of data by identifying relationship.
Relationship and drawing inferences. The last three phases are concerned with an application of principles by hypothesizing, explaining hypothesis and verifying the hypothesis.

Social system- In the nine phases, the class room climate is conductive to learning and cooperative. A good deal of freedom should be given for pupil-activities. The teacher is usually the controller and initiator of information. The teaching activates are arranged in logical sequence in advance.

Support system- The teacher's job is to help the students in dealing with the more complex data and information. The teacher has to encourage the student in processing

the data. It has been basically designed to develop thinking capacity. A particular mental task and cognitive task require specific strategy to improve thinking.

15.7-Classroom application- Taba has designed the model to create inductive thinking among learners. It helps to organize social studies curriculum so that cognitive process may be facilitated. The learning experiences are the basis of information to arrange the content in an effective sequence. The first three phases are useful in dealing with elementary classes and the last three phases are useful for science and language curriculum.

Self Check Exercise-6:

Q-1: An EVS teacher must-

1. Construct curriculum.
2. Transmit curriculum
3. Follow curriculum
4. Implement Curriculum

Q-2: Who developed the inductive teaching model-

1. Hilda Tawa
2. Bloom
3. Skinner
4. Rousseau

15.8-Summary: The Socratic teaching model involves asking thought-provoking questions to encourage critical thinking and stimulate deep insights. This method is based on the belief that knowledge is within individuals. The Classical Humanistic teaching model emphasizes the importance of student-centred learning and recognizes the role of the teacher as a facilitator and guide. The Personal Development teaching model focuses on helping students develop self-awareness, self-esteem, and interpersonal skills. The Interaction Teaching Model emphasizes the importance of active student participation and interaction in the learning process. It is based on the idea that learning is a social activity that involves collaboration, discussion, and feedback. In this model, the teacher acts as a facilitator, guiding and supporting students as they engage in group activities, discussions, and problem-solving tasks. The Social Interaction Teaching Model is a student-centred approach to teaching that emphasizes the importance of social interaction and communication in the learning process. These models are shaped by the methods used in the classroom to create an ideal learning environment and enhance teachers' teaching skills and effectiveness. They contribute to improving students' academic performance. These models remain useful in modifying and enhancing teaching approaches, thereby helping to meet the

diverse needs of today's students and facilitating better communication between teachers and students. In essence, they promote positive teacher-student interaction.

15.9- Glossary:

Essence: The intrinsic nature or indispensable quality of something, especially something abstract, which determines its character.

Inductive learning- is a teaching strategy where students discover operational principles by observing examples.

Self-Esteem- Confidence in one's own worth or abilities; self-respect

Indispensable Quality: Essential or vital for something to function or be successful. "Honesty is an indispensable quality for building trust in relationships."

15.10-Answers to Self –Check exercise:

Self-Check Exercise-1:

Ans-1: A model for teaching is a tentative theory of teaching. Silverman differentiates between some of the functions of theories and models. A theory is a system in which the interaction among actual variables is explained, where as a model is an analogy and is evaluated by its utility.

Self-Check Exercise-2

Ans-1:

1**.** Creation of reality: Model is creation of reality, object, and event in terms of another.

2. Abstraction of reality: Model is an abstraction of reality to understand its essence in a context.

Self-Check Exercise-3:

Ans-1**:** Characterization
Ans-2**:** Information development model.

Self-Check Exercise-4:

Ans-1: A student may have wrong hypothesis for some time. He may go on thinking in the wrong direction.

Ans-2: J.S. Bruner

Ans-3: Inductive Reasoning

Self- Check Exercise-5:

Ans-1:David Ausubel

Self Check Exercise-6:

Q-1: Construct curriculum

Q-2: Who develHildaTawa

15.11-References and suggested readings

Educational Technology byDr. J.S. Walia

Technological Foundation of Education by R.A. Sharma

Educational Technology Dr. S.P. Kulshreshtha

Advanced Psychology S.K. Mangal

15.12-Treminal Questions

1. What do you mean by model? Discuss the models of teaching.

2. Discuss Glaser's basic teaching model in detail with suitable example.

Unit-16

Instructional Strategies (Teaching Strategies)

Structure:

16.1-Introduction

16.2-Learning Objectives

16.3-Meaning of teaching strategies

Self-CheckExercise-1

16.4-Types of instructional/teaching strategies

Self-Check exercise-2

16.5-Brain storming

16.5.1-Characteristics of Brain storming

16.5.2-Assumptions of Brain Storming

16.5.3-Principles/points to be remembered about Brain Storming

16.5.4-Steps involved in Brain-Storming

16.5.5-Uses of Brain Storming

Self-CheckExercise-3

16.6-Gaming

16.6.1-Computer Gaming

Self-Check Exercise-4

16.7—Simulation

16.7.1--Types of simulation

16.7.2--Organization of Simulation Teaching

16.7.3-Characteristics or Features of Simulated Teaching

16.7.4-Types of Activities in Simulation

16.7.5-Procedure of Simulated Teaching or Steps in Simulation

Self-Check Exercise-5

16.8-Role-Playing Strategy

16.8.1-Characteristics Role-Playing Strategy

16.8.2-Suggestions for Improvement

16.8.3-Steps of Role-Play

Self-Check Exercise-6

16.9- Factors Affecting Learning

16.9.1- The basic potential of the learner.

16.9.2-Factor Associated with the men and Material Resources

16.9.3-Factors Associated with the type of learning experiences

Self-Check Exercise-7

16.10-Summary

16.11-Glossary

16.12- Answers to Self- Check

16.13-Reference Books

16.14-Terminal Questions

16.1-Introduction

The main focus of teaching is to bring about a desirable change in the behavior of the learner. It is brought about by the teacher using teaching strategies to achieve his objectives. But traditionally we have been using teaching methods for content presentation. In order to the effectiveness of the presentation, the audio visual aids are also used.

The teaching is much more difficult task. It requires different type of methods, techniques and teaching aids.

The teaching learning objectives and task analysis provide the basis for effective presentation of teaching in order to bring desirable change in the behavior of the learner.

16.2-Learning Objectives:

After studying this chapter the students will be able to know about**:**

The meaning of teaching strategies.

Use of different teaching strategies in the teaching–learning situations.

The meaning of Brain Storming, Role play and Simulation.

Factors that affect the process of teaching and learning.

16.3-Meaning of teaching strategies:

View of I.K Davis: “Strategies are broad method of teaching”

View of B.O. Smith: “the term ‘strategy’ refers to pattern of acts that serve to attain certain outcomes and to guard against certain others.”

View of Stones and Morris: “Teaching strategy is a generalized plan for a lesson which includes structure, desired learner behaviors in terms of goals of instruction and an outline of planned tactics necessary to implement the strategy. The lesson strategy is a part of a larger development scheme,” Two aspects are involved in this definition of strategy:

1. A generalized plan for the presentation of a lesson.

2. Desired learned behavior in term of goals of instruction.

Teaching strategy is a skilful planning of a working system by which objective can be achieved conveniently. Strategies are never the same. They change according to changing situations. Teaching strategy means the determination of some policy by planning before presenting the contents with the help of which students’ force is faced and the teaching objectives are achieved and it seeks to establish the relationship between teaching and learning in view of achieving the objectives . Teaching strategies have been regarded as broad ways of instruction.

Self-CheckExercise-1

Q-1: Strategies are broad method of teaching. True/False

16.4-Types of instructional/teaching strategies:

Autocratic strategies: Autocratic teaching strategies are traditional teaching strategies. These are teacher centered and content centered. In these strategies the teacher’s place is primary and the student’s place is secondary. The teacher determines

the content itself. He considered himself an ideal. He tries to impose knowledge forcibly from outside in the minds of students by suppressing their interests, attitudes, capacities, abilities and needs. Autocratic strategies include:

Lecture, (2) Demonstration, (3) Programmed instruction

Democratic strategies: These are student cantered. The students determine themselves the content. In the use of these strategies, the student's place is primary and the teacher's place is secondary .As a result, maximum interaction occurs between the students and teacher .This develops constructive capacities of students in accordance to their interest, abilities, needs, attitude and mental level. Democratic strategies include the following:

Group discussion, (2) Project, (3) Question-Answer, (4) Review, (5) Heuristic, (6) Role playing, (7) Brain storming, (8) Computer-Assisted Instruction, (9) Assignment, (10) Independent Study, (11) Discovery, (12) Tutorial Group

Self-Check exercise-2:

Q-1: Name two democratic strategies.

16.5-Brain storming

According to Page and Thomos

It is a technique of exploring possible solutions wherein participants are encouraged to contribute suggestions without risk of ridicule.

According to David:

Brain Storming is an approach to increase the learner's creativity and openness for problem solving.

16.5.1-Characteristics of Brain storming

1. Simple and specific problem

In brain storming simple and specific problem is selected.

2. Encouragement

In brain storming the group is encouraged to concentrate freely.

3. Spontaneity of ideas

There is spontaneity and rapid production of ideas in the group for the solution of specific problem.

4. Modification of ideas

Combination of modification of behavior of ideas is preferred.

5. Intellectual activity

It is an intellectual activity.

6. Personal views

Each student gives his personal views.

7. Divergent Thinking

It has divergent thinking

8. Deliberate attempt

It is a deliberate collective attempt by the class.

9. No Criticism

There is no criticism and discouragement as they hamper imagination and creativity.

16.5.2-Assumptions of Brain Storming

1. Psychological blockage.

2. Mental thoughts

3. Active thinking.

4. Free flow of expression

5. Expression as a therapy.

6. Motivation.

16.5.3-Principles/points to be remembered about Brain Storming

Statement of the problem

Encouragement

Appropriation

No criticism

Fun and laugh

Supporting environment

Free mind

Explain rules

Short sessions

Central points

Chairman and recorder

Responsibilities

Discussions

16.5.4-Steps involved in Brain-Storming

Planning the problem: Plan all Phases of the problem.

Selection of sub-problem: Select sub-problems to be attached.

Thinking about solution: think up about the idea.

Selection of the sources: select the probable sources of data.

Collection of data: Collect the most relevant data.

Deciding idea: decide the possible ideas.

Selecting ideas: Select ideas most likely to lead to the solution.

Testing the ideas: In this step we test the ideas.

Final solution: take the decision about the final solution.

16.5.5-Uses of Brain Storming

Arousal of attention: It arouses attention of the students.

Development of interest: It stimulates and develops interest of students.

Development of imagination: It arouses imagination of the students.

Development of the ideas: It develops ideas of students.

Finding solution: It helps to find out solution of the problem.

Joy and satisfaction: It is a source of joy and satisfaction.

Self-CheckExercise-3:

Q-1: Brainstorming is only effective when done _____.

A. Be more productive

B. Immigration status

C. Respectful.

D. Anyone

Q-2: Brainstorming sessions at ideo can generate as many as _____ ideas for products in an hour.

A. Stock keeping unit (sku)

B. Idea generation

C. 100.

D. None of these

Q-3: What is brainstorming?

A. A technique used to analyze and evaluate data

B. A process of generating creative ideas and solutions through group discussion.

C. A method of conducting surveys and collecting feedback

D. A strategy for prioritizing tasks and setting goals

Q-4: What is the primary goal of brainstorming?

A. To reach a consensus quickly

B. To promote individual thinking and reflection

C. To encourage the generation of a wide range of ideas.

D. To identify potential problems and obstacles

Q-5: How does brainstorming encourage creativity?

A. By imposing strict guidelines and rules for idea generation

B. By encouraging free thinking and suspending judgment.

C. By focusing only on practical and realistic ideas

D. By limiting the number of participants in the brainstorming session

16.6-Defining Gaming

Gaming is an instructional strategy or a specially designed strategy or teaching learning situation in which planned and organized play way activities and games are utilized for deriving useful educational purposes.

However, play way activities and games are generally known as “something enjoyable involving competition for specified objectives and observing rules” {Nesbitt, 1968, p.5}.

In these sense, essential properties of a gaming act may be cited as

A small fixed number of players

A common goal to be achieved by the players

The rules for playing the games.

Although all games are bound the share the above qualities, however, there may lie a great variation in term of their term and structure and composition like relative amount of physical and mental activity of a skill and luck to win, there the number of participant and degree of competition and the mode of designating a winner, etc. However, in all the play activities and games, whatever nature and objectives they may possess, one thing quite common that they have enough potential for providing valuable learning experiences in a relaxed, spontaneous and evaluative situation.

16.6.1-Computer Gaming

Computer gaming and teaching machines have almost revutionalized the gaming. They are in a position to provide both simulated and non-simulated situation for gaming. A student may now try out different alternative situations, ways and means by playing a game with a set of players and rules. These can be asking puzzles and quizzes, put up the problems in a funny styles and situation for answering individually or in a group.

There is no dearth of software programmes providing computer educational games in the curricular and non-curricular fields. Languages, mathematics bases and applied sciences, arts and crafts can be well conceptualized through these games in a quite

interesting style. Series are available as nursery kindergarton, grade 1, grade2 and onwards.

Games are also available for the development of thinking skills like logical thinking, creative thinking and constructive thinking among the children.

Let us illustrate the role of a computer game in providing varying teaching-learning situation and experiences through a well known classical computer known as “sailing ships game “useful for the learning of many concepts.

The player has to choose a beginning and finishing port from the six ports, e. London, Rio-de Janeiro, Chile, Sydney, Cap town and Shanghai for playing the game. The position of a ship at one time or the other is indicated on a world map displayed on the monitor screen of the computer: which also records the time of the ship’s voyage from the leaving port. As soon as the player types the name of a starting port, the latitude and longitude of that place are displayed on the monitor. It then asks the player to indicate the day and month of the intended voyage. The player has to reach the distinction port in the shortest period of time, by skillfully sailing his voyage.

Self-Check Exercise-4:

Q-1: In what year did Sony announce they were developing a Playstation Portable?

1. 2003
2. 2004
3. 2005
4. 2007

16.7-SIMULATION

Meaning of Simulation:-

View of Thomas &Deemer;”To simulate is to obtain the essence of, without the reality.”

Meggary’s view:- “A simulation is a technique of teaching and learning in which the students are presented with selected elements of real life events, processes or conditions with specific roles to play and specific goals to achieve. Use of simulation to effect specific needs and interests can provide great motivation for both the teachers and students.”

Types of simulation:

Horman has given the following types of simulation.

1. Identity simulation: In identity simulation, the actual system is used as a model.

2. Replication simulation: In replication simulation, an operational model of the system is used in its usual environment.

3. Laboratory simulation: In laboratory simulation, replication is employed in the laboratory, with features of the real system represented.

4. Computer simulation: Computer simulation is an abstract representation of the real system with use of a computer.

5. Analytical simulation: Analytical simulation uses mathematical models and attempts to get solution by analytical means.

16.7.1--ORGANISATION OF SIMULATION TEACHING

The organization of simulation teaching involves 5 to 7 students and teachers who are to practice a social skill. The one who 'teaches' is called an actor. Two students assume the role of observes and the trainees who play the role of student are called foils whose number varies from two to four.

16.7.2-CHARACTERISTICS OR FEATURES OF SIMULATED TEACHING

Planning:- Simulated teaching requires systematic advance planning to enable the students to display the desired behavior (skill) after going through the training.

Involvement: - The students are required to actively participate in all the activities. Simulated teaching demands a firm commitment and supportive behavior on the part of the students.

Feedback: - The quality and frequency of feedback plays an important role in simulated teaching. It brings the desired change in human behavior.

Control: - Simulated teaching is based on the system approach to achieve the specific objectives laid down before the student. Simulated teaching allows the teacher/trainees to determine what the students are to learn and in what sequence and under what conditions.

Time:- Simulated teaching is goal-oriented and flexible method of teaching. Depending on the objectives to be achieved, time can be condensed or expanded, or both.

Safety:- Simulated teaching minimizes the risk in performing any activity in an artificial or mock or laboratory situation. Experience of performing operation of a patient, flying

and driving an aircraft, fighting in a war and similar dangerous or risky situations can be given to them by providing artificial situations and mock trials.

16.7.3-TYPES OF ACTIVITIES IN SIMULATION

Role playing:- Role playing is the simplest of the activities included in the all embracing term 'Simulation'.

Socio-drama:-Socio-drama is the use of the role playing as a means of enabling the role players to seek a solution to a social problem which is posed for them.

Gaming:- Gaming is the addition to the technique of socio-drama of an element which demands the development and choice of strategies and some type if pay-off-rewards or deprivations dictated either by chance or by the choice of strategies.

16.7.4-PROCEDURE OF SIMULATED TEACHING OR STEPS IN SIMULATION

Flanders recommends the following steps:-……

Selecting pupil-teachers: A small group of pupil-teacher is selected. Letters A, B, C, D etc. are assigned to each person in the group.

Selecting and discussing skills:- The skills to be practiced are selected and discussed. Topics of conversation that fit the skills are also suggested.

Deciding consideration:- Considerations as to who will start the conversation, who will intervene, who will stop the interaction and when it will be stopped are decided.

Deciding procedure of evaluation:- The procedure of evaluation, kind of data to be recorded and the method of recording etc. are decided.

Conducting practice session:- First practice session is conducted and the actor is provided with feedback on his performance.

Prepared to change the procedure:- If need arises, one should be prepared to change the procedure and the topic and move on to the next skill so as to present a meaningful challenge to each actor to keep his interest as high as possible.

Self-Check Exercise-5:

Q-1:

In which year, first special-purpose simulation languages were developed?

1.1940

2.1960

3.1970

4.1980

Q-2: All simulations involve:
a. The passage of time
b. A model on a computer
c. An imitation of a system
d. A visual display
Q-3: The simulations described in the book are used for
a. Understanding a system
b. Understanding and improving a system
c. Improving a system
d. None of the above

16.8-Role-Playing Strategy

This is a dramatic method which is related with the development of cognitive and social skills. This can be used to bring to about change in a student's interest, attitude and aptitude. In this, desirable teaching is given importance. In this role-playing method, a class is divided into small groups and they are made to role-play others. In this, students have to play the role of both teacher and student. Through it, a student becomes a teacher and the others of the group role-play those of students as if they are really so, and thus express their feelings and experiences naturally. In this, students are not given any practice, and' they are given any role to play.

16.8.1-Characteristics Role-Playing Strategy

Students get an opportunity to express their feelings and emotions.

Students enjoy this method as it is a source of entertainment.

Students' attitudes undergo a change and development.

It is useful for even small classes.

This is a method related with human relations.

This influences low and middle level knowledge, comprehension and the ability for their application.

This helps in creativity, physical expression and verbal development.

Skills related to pupil-teachers life are developed by experiences.

By this, desirable (cognitive and social) objectives are realized.

It is possible to review and improve upon teacher's behavior.

This is one of the most important teaching strategies in history, literature, civics and science etc.

This is a duplication of experiences which is made actual.

Limitations

This is an informal method.

This is more useful for small children in educational institutions.

Students work in artificial environment and it is not possible to give the real form.

16.8.2-Suggestions for Improvement

In this method, different data pertaining to the situation are given to students, and they should be left free to discuss and taking it further.

The inner principles and method should be well understood.

Opportunities for practice should be given before beginning actual teaching work.

A teacher should be present in the classroom throughout the time of role-playing.

At the end of role-play, students and teacher should review the performance together, and all aspects should be discussed in detail.

16.8.3-Steps of Role-Play: Role-play is conducted by following the steps given below:

Formulating the programme.

Telling students what character and when they have to role-play.

Selecting topic or lesson.

Determination of the observation method of teacher's behavior.

Practicing teaching (doing actual role-play).

Reviewing role-play.

Discussing suggestions for improvement in the future.

Self-Check Exercise-6:

Q-1: The drawbacks of the role-play method is---

1. Lack of concentration

2. Monotonous method

3. Slow Learning process.

4. Lapse of time

16.9-FACTORS AFFECTING LEARNING

Learning, as you have studied, can be defined as a process of bringing relatively permanent changes in the behavior of the learner through experience or practice.

An examination of this definition may reveal that learning process is centered on three elements:

The learner whose behavior has to be changed or modified.

The type of experience or training required for modification in the learner's behaviour.

The men and material resources needed for providing desired experiences and training.

Therefore the success or failure in the task of learning in terms of introducing desired modification in the behaviour of a learner will automatically depend upon the quality as well as control and management of the factors associated with the above cited elements. .Let us discuss briefly factors.

Factors associated with learner

Learner's physical and mantel health.

Learning is greatly affected by the learner's physical and mental health maintained by him particularly, at the time of learning. A simple headache or a stomachache can play havoc with the process and products of learning. A child who does not maintain satisfactory physical health, have to suffer adversely in terms of gains in learning. Similarly, the mental state and the health of a learner at the time of learning become potent factors in deciding the outcome of his learning. A tense, emotionally and mentally disturbed learner cannot show satisfactory results in learning.

16.9.1- The basic potential of the learner.

The results achieved by the learner through a process of learning depend heavily upon his basic potential to undergo such learning. Such potential may consist of the things given ahead:

1. Learner's innate abilities and capacities for learning a thing.

2. Learner's basic potential in terms of general intelligence and specific knowledge, understanding and skills related to a particular learning area.

Learner's basic interests, aptitudes and attitudes related to the learning of a particular thing or area.

3. The level of aspiration and achievement motivation.

Learning is greatly influenced by the level of aspiration and nature of achievement motivation possessed by a learner. How can we expect learner to achieve a thing for which he has no aspiration?

Also, too much of aspirations make it impossible for an individual to achieve this. A person has to maintain the level of his aspiration and achievement motivation at a reasonable level. That is to say, his aspirations should be neither too high which will neither result in non-achievement of any of his goals' nor too low as not to try to achieve goals which he is quite capable.

4. Goals of life.

The philosophy of immediate as well as ultimate goals of one's life affects the process and product of learning. His mode and ways of looking towards things, his inclination towards learning a particular subject and patience and persistence in pursuing his learning despite the heavy odds- all depend upon his goals and philosophy of life.

5. Readiness and will power.

A learner's readiness and power to learn is a great deciding factor of his results in learning. No power on earth can help a learner if he is not ready to learn. Certainly, if he has a will to learn a thing, then automatically, he will himself find ways for effective learning.

16.9.2-Factor Associated with the men and Material Resources

A learner is helped by the available resources for bringing desirable changes in his behavior.

1. Proper seating arrangement.

2. Calm and peaceful environment.

3. Management and control of the factor leading to distraction.

4. Congenial learning environment at home.

5. Cooperative and competitive group situations.

6. Provision of proper change, rest and recreation.

7. Provision of opportunity for creativity and self expression

16.9.3-Factors Associated with the type of learning experiences

The type of changes or modification found in learner's behaviour depends much on the type of learning experience and training received by him for this purpose.

1. Nature of learning experience.

Learning is influence by the nature of the subject matter and the learning experiences presented to a learner such as the following:

Whether the nature of learning experience is formal or informal, incidental or well-planned, direct or indirect and like that.

Whether learning experiences are suitable selected on the basis of the principle of activity, criterion of activity, age, grade and experiences of a learner.

Whether learning experiences are suitably organized for the attainment of desired educational objection or not.

2. Methodology of learning.

Learning depends upon the methods, techniques and approaches employed foe the teaching and learning of the selected contents.

Linking the recent learning with those of the past.

The quality of result in learning depends much on the abilities of a teacher and a learner to link the present new learning with the past experience of the learner.

Correlating learning in one area with that of another.

3. Utilization of maximum number of sense.

Senses are said to be the gateway knowledge and consequently the results in learning are very much influenced by the nature and type of utilization of one's senses in the acquisition of learning experiences.

4. Revision and practice.

Review and practice always brings good results in the achievements of learning. A learner who makes use of sufficient drill work of his learning can be expected to harvest a good yield in terms of his good retention, reproduction and utilization at the proper time.

5. Provision of proper feedback and reinforcement.

Learning yields are dependent upon the nature and quality of the reinforcement provided to the learner in his learning task. One must be acquainted with the progress of his learning in terms of his strength and weaknesses and remedial action if needed may be taken at the proper time.

6. The selection of the suitable learning methods and teaching.

There are sufficient methods and a number of good techniques available for the teaching and learning of different subjects and areas of experiences.

Self-Check Exercise-7:

Q-1: Learning objective mean-

1. Learning experience

2. Concise outcome

3. Academic achievement

4. Intended learning outcomes

16.10-Summary

Thus teaching strategies are establishing the relationship between teaching and learning in view of achieving the objectives. It includes broad method instruction, e.g.…, elector strategy, a case study strategy programmed instruction strategy. They can be regarded as a broad and away of operation. It helps to realize educational aims. Thus teaching and learning process has occupied an important place in the field of education. Teaching and learning are two fundamental aspects of educational process. Both are closely related to each other. But there are so many factors that affecting the teaching and learning. The most important objectives of teaching are to facilitate learning.

16.11-Glossary:

Instructional objectives: Those knowledge, skills, aptitudes that a teacher expects his students after a completion of instructions.

Drill work: An activity that practices a particular skill and often involves repeating the same thing several times, especially a military exercise intended to train soldiers.

Artificial environment: The environment created by a person to perform some activity

16.12- Answers to Self-Check Exercise:

Self-CheckExercise-1

Ans-1: True

Group discussion, (2) Project, (3) Question-Answer, (4) Review, (5) Heuristic, (6) Role playing, (7) Brain storming, (8) Computer-Assisted Instruction, (9) Assignment, (10) Independent Study, (11) Discovery, (12) Tutorial Group

Self-Check exercise-2:

Ans-1: Role playing, Brain storming

Self-CheckExercise-3:

Ans-1: Respectful

Ans-2: 100

Ans-3: A process of generating creative ideas and solutions through group discussion.

Ans-4: To promote individual thinking and reflection

Ans-5: By encouraging free thinking and suspending judgment.

Self-Check Exercise-4:

Ans-1: 2003

Self-Check Exercise-5:

Ans-1:1980

Ans-2: A visual display

Ans-3: None of the above

Self-Check Exercise-6:

Ans-1: Slow Learning process

Self-Check Exercise-7:

Ans-1: Intended learning outcomes

16.13- Suggested Readings and Reference Books

Educational Technology byDr. J.S. Walia

Technological Foundation of Education by R.A. Sharma

Educational Technology Dr. S.P. Kulshreshtha

Advanced Psychology S.K. Mangal

Davies : Dorothy, R (1945), "The effect of Tuition upon the focus of Learning a Complex Motor Skill" Journal of Educational Psychology 36: 352-65.

DeCecco and Crawford (1977), "The psychology of learning and instruction" Prentice-Hall of India Private Limited, New Delhi 110001.

16.14-Terminal Questions

1. What do you mean by the term strategy? Discuss the concept of strategies of teaching?

2. Write a short note on Brainstorming and Simulation.

3. How can you say that Role-Play and Gaming is the best strategy of teaching in lower classes?

4. Discuss in detail the factors that affect the process of teaching and learning.

5. Discuss the advantages of strategies of teaching.