Advanced Methods of Teaching

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Teaching involves a set of activities called teaching acts, teacher behaviours and a number of variables that form part of the teaching process. A theory of teaching must provide a framework for the proper planning, organization and control of the teaching tasks or teacher behaviours and manipulation of all the involved variables in order to realise the stipulated educational objectives effectively, it must help the teachers to bring about desirable behavioural change, in their students and actualise their potentialities to the maximum. Teaching must provide an answer for all questions relating to teaching for effective learning. Different teaching methods like lecture method, demonstration method, inductive–deductive method, heuristic method, problem solving method, project method, etc., are used for presentation of the subject matter to the students. Any method which teacher uses is always selected and directed to serve the purpose of presenting the subject material as effectively as possible.

Models of teaching have been developed to help a teacher to improve his/her capacity to reach more children and create a richer and more attempts to create efficient systems by sequencing learning activities and shaping behaviour by manipulating reinforcement. Advanced Methods of Teaching is such a bunch of information which helps both teacher as well as students to grab the required learning activities. So all these concepts has been introduced in a simple language to enable the readers grasp them with ease. The changing perception of education is the main source of inspiration to design this book. Several other sources both print and electronic media was helpful for the writer of this book.

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Dr. T. PRADEEP KUMAR
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Objectives

After reading this Unit, you should be able to:

- Explain the teaching concept
- Explain the relationship the teaching and learning
- Understand anatomy of teaching.
- Describe phases of teaching.
- Explain the need and functions of teaching theories
- List out types of teaching theories

INTRODUCTION

Concept of Teaching

A concept is a focus of inferences permitted by the various uses of a term. Hence for understanding the concept of the terms teaching, the following issues have to be focused.

(i) Definitions of the term teaching.
(ii) Nature and characteristics of teaching.
(iii) Its relationship with other related or synonymous terms.

Definitions of Teaching

H.C. Morrison (1934): “Teaching is an intimate contact between a more mature personality and a less mature one which is designed to further the education of the latter”
John Brubacher (1939): “Teaching is an arrangement and manipulation of a situation in which there are gaps and obstructions which an individual will seek to overcome and from which he will learn in the course of doing so.”

B.O. Smith (1960): “Teaching is a system of actions intended to produce learning.”

N.L. Gage (1963): “Teaching is a form of interpersonal influence aimed at changing the behaviour potential of another person.”

Edmund Amidon (1967): “Teaching is an interactive process, primarily involving classroom talk which takes place between teacher and pupil and occurs during certain definable activities.

B.O. Smith (1963): “Teaching is a system of actions involving an agent, an end in view, and a situation including two sets of factors those over which the agent has no control (class size, size of classroom, physical characteristics of pupils, etc.) and those that he can modify (ways of asking questions about instruction and ways of structuring information or ideas gleaned.)”

Clarke (1970): Teaching refers to “activities that are designed and performed to produce change in pupils behaviour”

Thomas F. Green (1971): “Teaching is the task of teacher which is performed for the development of a child.”

Yoakum and Simson: “Teaching is the means whereby the experienced members of the group guide the immature and infant members in their adjustment of life.”

Analysis of these definitions: Morrison (1934) takes teaching to a disciplined process in which a teacher by virtue of his ideal position, status, knowledge and experience influence behaviour of the less experienced pupil and helps him to develop according to the needs and ideals of the society or government. Here the student has to learn and develop according to the ideals set before him by the teachers. Teaching is reduced to what the teacher teaches. There is no interaction but there is a flow of instructions from the teacher. As a result, the pupils are bound to become passive listeners and blind imitators.

Brubacher (1939) takes teaching to that position where the pupils play the central role and teacher task is limited to arrange and create situations for the learning. Here the students have to decide what they want to do and how they will do it. This type of teaching leads the pupil to independent learning and problem solving.

Theories of Teaching

Smith (1960) terms teaching as an organized system of specific activities that are aimed to help the learner to learn something. Teaching may be carried out in the absence of a teacher. Anything like a book, nature, teaching machine, etc., may play the role of a teachers. The important thing is the role of a system of actions or activities. If this system of activities result in some type of learning then this system may be termed as teaching. This definition does not consider all the 3 elements of teaching process namely, the teachers, taught and the subject matter. To overcome this weakness Smith elaborated his definition (1963) by considering teaching as a tripolar process involving:

(i) an agent (the source, human or material that tries to produce learning)
(ii) a goal or target that is to be achieved through the process of teaching and
(iii) the intervening variable consisting of learning/teaching situation or environment. It may involve physical or human material conditions and instructional methods.

Gage (1963) defines teaching as a process of establishing interpersonal relationship between the teachers and taught as a result of which the behaviour of the latter is modified. Here the relationship play the key role. But this approach to teaching-learning does not consider the role of hardware (teaching machines, programmed instruction etc).

Amidon (1967) considers teaching as a process of interaction between the teacher and the taught. He considers teaching as a co-operative enterprise, and a commonly shared phenomenon. It is two way and results in the improvement and development of both the participants, i.e., teacher and the taught. It considers teaching as a set of properly planned and clearly defined activities that are undertaken for the achievement of certain objectives. This definitions confines teaching within the interaction of the teacher and exclusively in the form of classroom talk or a few special activities.

Clarke (1970) has tried to broaden the scope of teaching by terming it as a set of all those activities that may result in bringing some change in the behaviour of the learner.

Green (1971) tried to delimit the boundary and scope of teaching task. He defines teaching as a profession or occupation by stating that teaching is what a teacher does for the development of a child. But teaching can neither be restricted to a profession or occupation of people or a community like teacher nor it can always be relied for bringing desirable improvement or development in the behaviour or function of the child. It
may result in desirable as well as undesirable ways. Hence it cannot be assumed to play a developmental role in all situations.

Some of the above definitions have a very limited view of the functions and scope of teaching while others elaborate it to the extent of unbridled freedom and undefined tasks of purposeless outcomes. A single definition cannot explain the term teaching comprehensively and functionally. A good definition of teaching, clearly indicate

- Whether teaching is a process or product.
- Its constitutional elements or factors.
- Its objective
- its organizational and structural aspect.

The comprehensive and functional definition of learning may be as given below:

Teaching is a triadic relation – involving the source of teaching (human or material), student and a set activities designed and manipulated primarily to bring changes in the behaviour of the student.

Teaching is a social process. The political system, social philosophy, value and culture of a nation leave their impression on it. The meaning of teaching varies with the political system. The meaning of teaching varies from autocratic, democratic and laissez-faire set up.

Morrison defines teaching from autocratic point of view, Gage has democratic point of view and Brubacher takes the laissez-faire point of view to define teaching.

Some of these definitions consider teaching as a bi-polar process (teacher and pupil are 2 poles) and some consider teaching as a tri-polar process (teacher, pupil, and society. Curriculum is the 3 pole).

Nature and characteristics of other similarities

1. Teaching is a complex social phenomenon. It is influenced by the social factors; the social and human factors are dynamic.

2. Teaching is both an art as well as a science. Comparing to the practice of medicine, Silvermann says – it is an art as it needs talent and creativity. Like medicine it is also a science as it involves as repertoire of techniques, and skills that can be systematically studied and described and improved. A good teacher like a great doctor is one who adds creativity and inspiration to the basic repertoire.

3. Teaching is a professional activity involving the teacher and the student and which results in the development of the student.

Theories of Teaching

4. Teaching is what a teacher does with his student for causing the latter to learn something.

5. Teaching is a system of actions which are varied in from and are related to content and pupil behaviour in context with the prevailing physical and social condition.

6. Teaching is highly dominated by the skill of communication. The flow of communication within the teaching elements like teacher or sources of teaching, student and the teaching activities make teaching a reality and a success.

7. Teaching may have various forms like formal and informal, formational or informational, directional or instructional, teaching conditioning or indoctrination, telling, showing or doing, descriptive or remedial etc.

8. Teaching is a specialized task and may be taken as a set of component skills for the realisation of a specified set of instructional objectives.

9. Teaching is amenable to scientific observation and analysis. What is going on in teaching, in a teacher can be observed, analysed and assessed through teaching behaviour, pupil-teacher interaction and the changes brought in the behaviour of the pupils. Such analysis and assessment may provide essential feedback for bringing desirable improvement in this process.

The relation of teaching with other similar or related concepts:

Terms like conditioning, training, instruction and indoctrination and are mistaken to be synonymous to teaching, these are various modes of teaching. Each of them contributes towards teaching. Teaching is a larger concept and each of these terms is a part or aspect of this large concept.

Teaching, as a whole, is aimed to bring changes in the behaviour of pupils. These changes may occur through

(i) teaching them how to do or perform a task or act to a situation or stimuli.

(ii) teaching them things that may enrich their knowledge and formulation of a system of beliefs.

The first type of teaching (conditioning or training) may result in shaping of behaviour and conduct. The second (instruction or indoctrination) works as a potent agent for acquisition of knowledge and formation of beliefs.
Theories of Teaching

Indoctrination (transmission of doctrine, or system of beliefs) is on the farther end of the continuum of the modes of teaching. It represents a higher level of teaching and adds to the establishment of beliefs and ideas. It requires higher order of intelligence and results in bringing stable changes in cognitive and affective domains of one’s behaviour.

Like other modes of teaching, indoctrination is one of the several modes of teaching. Indoctrination means teaching, but reverse is not true. These different modes of teaching conditioning, teaching instruction and indoctrination though are different and are distinguishable; they cannot be termed as unrelated. They may overlap in their processes and outcomes sometimes.

Relationship between Teaching and Learning

It is essential to establish the relationship between teaching and learning. The understanding of relationship between teaching and learning requires the understanding of meanings of these two.

The meaning of learning can be explained by these definitions.

Woodworth defines learning as “The process of acquiring new knowledge and new responses.”

Pavlov’s view is that learning is “habit formation resulting from conditioning.”

Crow and Crow consider learning as “the acquisition of habits, knowledge and attitude.”

In brief, learning may be defined as a relatively permanent change in behaviour (excluding the influence of growth, maturity or lesion). The teaching process is also related to realise the same objective as may be clear from the definition of teaching given by Clarke’s definition teaching, i.e., “activities that are designed and performed to produce change in student’s behaviour” relates teaching process to realise the same objective. It can be concluded that teaching consists of all those activities or system of actions that are intended to produce learning.

But cause and effect relationship does not exist between teaching and learning. It is not essential for a teaching to be ended with some or other types of learning. Similarly, for learning it is not essential for a learning to be initiated or handled by some or the other type of teaching. Learning may also take place without involving the formalities of teaching process.

Whenever a teacher teaches something to his class, his teaching intends to produce learning or bringing relatively permanent changes in the
behaviour of the students. But it is not guarantee that what he intends will be fully realised. It may be possible that the learning outcomes for the whole class or some particular students may be absolutely nil.

Similarly if one decides to learn something, it is not essential for a teacher or teaching formalities. It can be learnt through experience, self-study or self-learning. Teaching is an interactive process involving interaction between teachers and taught but learning may be purely one sided activity needing no interaction.

According to B.O. Smith (1961) “learning does not necessarily issue from teaching, that teaching is one thing and learning is quite another” Learning is not directly proportional to teaching or vice-versa. Both teaching and learning may exist and function independently.

But for good, there is a need of a good relation between teaching and learning. They can be synthesised and called teaching learning process. Both teaching and learning aims the same thing, i.e., brings changes in the behaviour of the learner. So it is necessary to bring both teaching and learning together. A good teaching must always be so designed and performed as to result in maximum learning. A teacher may also be highly benefited through a well organized system of action (teaching) for achieving his learning outcomes.

Gage (1964) considers,” the process of teaching and learning must be adapted to each other so as to make whatever combination of procedures pay off best.”

Teaching must make a central concern of the process of education or scheme of pedagogy, the learning, in turn, should be made a central theme and goal for every teaching.

The teaching-learning process, in the formal classroom set-up, is a joint action or co-operative task carried out by the teacher and taught. Both teaching and learning aim towards the same goal, i.e., to bring desirable changes in the behaviour of the learner. For achieving this the teaching-learning task can be performed at 3 levels, viz., memory level, understanding level, and reflecting level based on least to most thoughtful behaviour or modes of action (levels of teaching-learning).

Teaching is a social phenomenon/process which can be same as a way of doing work by the teacher to lead for some specific task performance. Teaching which is being task-based may primarily be structured but during the process it may become unstructured due to different strategies.

Theories of Teaching

Both the process of teaching and learning which are followed simultaneously as 2 faces of the same coin are undertaken the process hand in hand. Thus, their interrelationship can be clearly analyzed by the follow-up of following procedures like:

1. Learning is a psychological aspect which could be achieved by the process of teaching which is a social phenomenon.
2. Teaching leads to achieve learning.
3. Teaching affects the personality of an individual which leads to maturity being the modification of behaviour among an individual.
4. Teaching leads to having an intimate contact with the learners with better adjustment and thus, accounts for favourable attitudinal modification which is a learning concept.
5. Teaching is an interaction between teacher and learner which leads to achieve the objectives which in turn affects for their modification in behaviour.

Anatomy of Teaching

Anatomy – the dictionary meaning for this term indicates that it is the science of the body learnt by dissection. Applying this to “Anatomy of teaching”— it means the analytic description of teaching. Analysis concerns with the process of breaking or separating out the elements or constituents of a substance. Therefore, a description of the analytical concept of teaching would demand the separation and naming of different elements or components of the task or process of teaching in relation to its various aspects like:

i. Activities undertaken in the teaching task and
ii. Educational objectives to be achieved through these activities.

Accordingly, there are several attempts made to analyse teaching in several ways in order to understand it:

– design teaching materials and methods for realising the objectives
– perform the task of teaching effectively
– evaluate and modify it (on the basis of feedback for acquiring teaching competency and proficiency)

Some of these attempts were made by Komisar, Gage, Clarke, Brown, B.K. Pani and N.K. Janjira and Ajit Singh.

Komisar (1966) tried to analyse teaching into various specific activities like introducing, demonstrating, contrasting, explaining, pronging,
justifying, explicating, defining, rating, appraising, amplifying, vindicating, interpreting, questioning, elaborating, identifying, designating, conjecturing, confirming etc.

**Gage (1968):** Analyzed teaching in terms of teaching skills. According to him “Teaching skills are specific instructional technique and procedures that a teacher may use in the classroom. They represent an analysis of the teaching process into relatively discrete components that can be used in different combination in the continuous flow of the teachers, performance.”

**Clarke (1970):** Endorses the views of Komisar and Gage. He analyzed teaching in terms of some specific activities that are designed and performed to produce change in students behaviour. These activities may be of cognitive, affective or cognitive nature and belong to different levels as expressed in Bloom’s Taxonomy.

**Brown (1975):** Analyses teaching as a many sided activity which includes a host of activities like questioning, giving information, listening etc.

**B.K. Passi (1976):** Concludes that teaching constitutes a number of verbal and non-verbal teaching acts, like questioning, accepting, pupil response, rewarding, smiling, nodding to pupil response, movements, gestures etc. These acts in particular combination facilitate the achievement of objectives in terms of pupil growth.

**N.K. Jangira and Ajit Singh (1982) have analysed teaching as:**
Teaching can be analysed in terms of teachers behaviour at least at 3 levels, viz.,
- Component teaching skills,
- Component teaching behaviours comprising the component skill and
- Atomized teaching behaviours.

Diagrammatically this analysis could be represented as:

### TEACHING

**Level 1:** Teaching may be analysed into various component teaching skills:

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**Level 2:** Each of the component skills may be analysed into a number of component teaching behaviours,

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**Level 3:** Each of these component teaching behaviours may be further analysed into atomistic teaching behaviours.

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**Fig: Analysis of Teaching (Janjira and Ajit Singh)**

Here the complex task of teaching is analysed into limited but well defined components called “Teaching” or technical skills of teaching.

The Asian Institute of Teacher Educators (1972) has considered the teaching skills as specifically effective in bringing about desired changes in pupils.

Thus, teaching may be viewed as a group of skills known as teaching skills. A teaching skill is defined as a group of teaching acts or behaviours intended to bring desirable changes in the pupil’s behaviour.

But this approach of analyzing teaching into some specific component teaching skills and related teaching acts or behaviours has been severely criticised. The criticism is that teaching cannot be regarded just as a sum total of certain teaching skills. Though acquisition of teaching skills is very essential for a teacher, this is not all what is needed. He needs much more and therefore teaching consists of something more than the teaching skill. It involves interaction; other factors like personality, attitude, interest, way of exercising desirable influence, etc., contribute towards effective teaching. A teacher is not a simple skilled worker who has acquired certain specific skills but one who in addition to it is able to act and take appropriate decisions and exercise necessary influence for bringing desirable change in the behaviour of his pupils.

**Phases of Teaching**

Teaching is a complex task. It involves many activities through which pupils, learning is assisted (The successful completion of the teaching act needs systematic planning and careful execution). For successful completion of the teaching act, these teaching activities have to proceed
in sequential steps. These steps or stages are known as phases of teaching. A teaching act may be systematically analyzed into three phases.

1. Preactive Phase of Teaching.
2. Interactive Phase of Teaching.
3. Post Active Phase of Teaching.

### The Preactive Phase

It is the planning phase of the teaching act. A good planning makes the task of a teacher smooth, functional and successful. The two major steps involved in this phase, namely:

- (i) Establishment of goals or objectives,
- (ii) Discovering ways and means to achieve these objectives.

The first step in planning for any teaching is the establishment of objectives. Accordingly the teacher has to formulate the specific instructional/teaching objectives in behavioural terms. These objectives are determined according to the psychology of the pupils and needs of the school and the society.

In the second step of the preactive phase, methods/ways to achieve the stipulated objectives are to be decided. Consequently, planning is done for taking decisions about the following aspects:

- (i) Choice of the content/material to be taught.
- (ii) Organization/sequencing the elements of content for presentation. (Logical/Psychological sequencing to assist maxims)
- (iii) Consideration about the principles and maximum of teaching.
- (iv) Decisions and planning about the proper use of teaching aids.
- (v) Choice of the methods, techniques and strategies of teaching
- (vi) Distribution of teaching strategies (when/ how to use strategies, techniques, teaching aids, etc.)
- (vii) Decisions about the evaluation tools.

In short at the preactive phase a teacher has to chalk out the details of his journey which he wants to take in the classroom along with his students.

### TEACHING

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<th>Preactive phase</th>
<th>Interactive phase</th>
<th>Post active phase</th>
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<tbody>
<tr>
<td>(Planning stage)</td>
<td>(Implementation stage)</td>
<td>(Evaluation stage)</td>
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### The Interactive Phase

The second phase of teaching is concerned with the implementation of what has been planned in the previous stage. It is the stage of actual teaching. At this stage the teacher provides pupil’s verbal stimulation of various kinds, makes explanations, asks questions listens to student’s responses and provides guidance. The success or failure of teaching depends upon the degree and quality of classroom interaction between the teacher and pupils. The activities in this phase can be grouped as:

- (a) Perception,
- (b) Diagnosis and
- (c) Reaction processes.

#### (a) Perception:

Interaction process demands an appropriate perception on the part of the teacher as well as student. When a teacher enters the class, his first activity is concerned with a perception of classroom (and the size of the class). He also tries to weigh his own abilities pre-planning for teaching against the class group. Similarly the students also try to have a percept of the personality (ability/behaviours) of the teacher in order to seek desirable interaction in the teaching-learning process.

#### (b) Diagnosis:

A proper diagnosis of the abilities and behaviour is essential for appropriate interactions. A teacher therefore, tries to assess and diagnose the achievement level of his students with reference to their abilities, academic background, intelligence, interest and attitude and aptitude. This diagnosis can be done in several ways like questioning, observing, assessing their performance/ behaviour etc. When an opportunity for performing is provided, the students can also assess and diagnose their own abilities and performance of their own response and can contribute towards effective interaction in the teaching act.

#### (c) Reactive Processes:

Verbal interaction plays central role in CR interaction. It involves two types of activities. Initiation and Response. Both these activities occur between the teacher and the pupils. When a teacher performs some activities, the pupils react to him and when pupils perform some activities, the teacher reacts to those activities. Thus, the interaction in teaching/learning goes on. This action-reaction processes play the central role in classroom interaction. For this the teacher has to take right decisions with regard to the selection and use of proper stimuli, schedule of reinforcement (positive) and feedback devices, and (development,) deployment of suitable strategies according to the needs.
of the pupil, teaching environment, and teaching objectives. The pupil will react and respond accordingly to the various stimuli and teaching techniques presented to him.

The Post Active Phase

The third phase of the teaching act concerns with the evaluation activities. First of all the stipulated objectives are considered and attempts are made to assess the degree of achievement of the expected behavioural changes in the students as a result of teaching activities performed at the interactive phase. This can be done in different ways like tests, quiz, observation of student’s reactions to questions, comments, structured/unstructured situations etc. Appropriate evaluation devices are to be used by the teacher for this purpose. The result of the carried evaluation may be used by the teacher as well as students for bringing desirable improvement in their roles and activities. It may take the following shapes:

(i) The suitability of the stipulated objectives may be properly assessed. The extent or quality of their accomplishment makes them to take decisions about further continuation, alteration or improvement.

(ii) The suitability of the content and its organization may be suggested. Decision regarding teaching the content or not may, therefore be taken.

(iii) The suitability of the instructional process, aid material and teaching strategies may be evaluated. As a result strategies and techniques of teaching may be changed and improved from evidences gathered.

(iv) The classroom environment and learning situations may be evaluated. Accordingly, desired changes may be effected in management of these elements.

In the interactive phase, these activities are not only carried out by the teacher, but in order to impress themselves and to impress the students also deploy various strategies by selecting different stimuli. In this way, the interactive phase of teaching is responsible for establishing appropriate verbal and non-verbal classroom interaction between the teacher and pupils by arranging suitable teaching-learning activities and equally suitable and controlled classroom environment. Help the teacher and the students to bring changes to their performances by providing necessary corrective feedback.

Although, these three phases of teaching are described separately, they are closely interrelated. They represent a continuous cycle of teaching, influencing and directing each other as shown in the diagram.

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Interrelation among the phases of teaching

It can be seen that the process of teaching does not confine itself to mere classroom interaction or presentation of the contents, teaching materials or learning experiences. A teaching act cannot be confined to face to face dialogue between teacher and the students which is carried out in the interactive phase. It begins (even before the teacher can enter the classroom) with the work of planning (i.e., the teacher enters the classroom) and continues after the interactive stage in the form of evaluation, feedback and other post active activities that take place even after the teacher has left the class.

Phases of Teaching

According to Phillip H. Jackson, the operation of teaching could be classified into 3 different phases as:

1. Pre active phase of teaching
2. Inter active phase of teaching
3. Post active phase of teaching

All these phases involve specific operations to be performed by,

1. **Pre active phase (planning stage):** This phase accounts for a pre-estimated idea before coming to the classroom. It includes a very good estimated pre-plan of understanding the class with a “good lesson plan.” Lesson plan preparation includes
   - formation of objectives with a particular selected content
   - content analysis
   - development of strategies of teaching.

2. **Inter active phase (presentations phase):** This is concerned with all activities and behaviour and manifested by the teacher in and after entering the classroom during the process of presenting the content. The operation included at this stage is:
(a) Verbal and non-verbal stimulation
(b) Presentation (along with an idea of Action Research)
(c) Development and use of strategies involved in teaching.

(3) **Post active phase (evaluation phase):** This phase of teaching accounts for the concept achieved after the classroom situation undertaken by the teacher which led to the achievement of objectives as estimated earlier. This stage may also be undertaken by just mere observation. It included

- testing behavioral change of students
- selection of appropriate testing device.
- feedback for evaluation

**Importance of operations of teacher:**

(1) To bring desirable change among the students.

(2) It is very important to perform the phases of operations in a systematic way to develop teaching skills and performance among students – teachers and regular teachers.

(3) To provide scientific basis for both teaching and learning, i.e., desired goals/objectives can be achieved to a very great extent.

A teacher should have good

- Knowledge/mastery of subject matter
- Skill of interaction with his students.
- Skill of making students learn and thinks independently
- Skill of evaluating and reinforcing pupils learning behaviour.

The psychological and epistemological bases for teaching

Teaching is a process. Teaching is not a concept but a construct. Teaching is a process of imparting knowledge. Teaching is an act which is systematically arranged and delivered so as to achieve the expected learning outcome. Teaching previously was a by polar process. Where teacher taught to interact with each other but now it is a tripolar process where both the teacher and the subject and environment will affect the learner. And the learners are the centre of the proof of the teaching process.

Teaching is both an art and a science – more a science. It is nothing but the imparting of knowledge. Teaching itself cannot be finalized and can’t give the complete meaning in itself. It has its base from the different description it has a psychological, philosophical historical, sociological, political, economical base of all these it has been constructed and finalized. Teaching has a psychological base in the following ways.

**Psychological bases for teaching:**

Psychology taken as a base of education is called the applied psychology. The principles and techniques of psychology have to be applied to the field of education.

- Psychology helps in understanding the learner, His growth and development.
- Provided a base about learners, intelligence, personality trait, maladjustment, motivation, problems, anxiety, further by knowing their teaching can be proved.
- Provides a base of individual differences how learning takes place, theory of learning, etc., how creativity can be enhanced.
- Provides bases for classroom management, assessment of the child, capacities, desires behaviour of the child.

**Epistemological bases:**

Teaching is incomplete without the philosophical base. Epistemology a branch of philosophy deals with the knowledge

- Provides base about the knowledge of the universe, time, space, the five panchabuthas, air, water, sky, earth, fire.
- Knowledge to be inculcated about different concepts like religion, morality, ethos, aesthetic, art, architecture, sculpture.
- Knowledge about self-individual, his experiences, knowledge about the surroundings and how they are helpful to man.
- Knowledge about society, politics, education, economics, painting, drawing, dancing, singing, playing, etc., that applies to a class or group of objects which have certain qualities in common.

Generalisations – higher than concepts – they state some abstract relationship between two or more concept.
Concept of a Theory

The term theory has been defined by eminent scholars.

According to Kerlinger, “A theory is a set of interrelated concepts, definitions and propositions that presents a systematic view of a phenomenon by specifying relationships among variables with the purpose of explaining and predicting the phenomena.”

According to Goode and Hatt, “Theory refers to the relationship between facts and ordering of them in some meaningful ways”

According to Matheson, “A theory specifies the relationship between events for the purpose of explaining the occurrence of the events and predicting future events”.

A theory helps in understanding the mechanism and interrelationships among the variables involved in a phenomenon or process. Theories have predictive value, the result of the particular phenomena or process can be known in advance with the help of the theories.

Theory of Teaching its Meaning

Teaching involves a set of activities called teaching acts, teacher behaviours and a number of variables that form part of the teaching process. A theory of teaching must provide a theoretical framework for the proper planning, organisation and control of the teaching tasks or teacher behaviours and manipulation of all the involved variables in order to realise the stipulated educational objectives effectively it must help the teachers to bring about desirable behavioural change, in their students and actualise their potentialities to the maximum. A theory of teaching must provide an answer for all questions relating to teaching for effective learning.

Contrary to theories of learning which pertain to the behaviours of the teacher, the factors, conditions and situations in which they learn effectively and outcomes of learning behaviours of the teacher and their teaching aimed for better learning.

The term, “theory of teaching” has been described by some educationists.

B.O. Smith (1963) describes theories of teaching as an attempt to describe teaching variables involved in the teacher behaviour in terms of their existence and possible interrelations for predicting outcomes of teaching.

He points that a theory of teaching needs to incorporate the following three elements.

Theories of Teaching

(i) It has to mention the different teaching variables involved in the teacher behaviour.

(ii) It has to describe the possible relations among these variables.

(iii) It must predict the impact of teaching.

According to Gage N.L. (1964), a theory of teaching must answer three questions related to the teaching process.

(i) How do teachers behave?

(ii) Why do they behave as they do?

(iii) What are the effects?

Gage visualises a teaching theory to have its predictive value. The learning performance of a student shows high correlation with teacher effectiveness and this effectiveness is gained through the knowledge and study of teaching theories.

According to Bruner (1966), a theory of teaching concerns with the most efficient ways and means for optimum learning. It must specify and ensure the arrangement, most effective learning experiences, learning environment and learning methods for optimum learning outcomes.

Mitra (1972), considered a theory of teaching to be derived from the theories of psychology like theories of motivation, intelligence and individual differences. In his opinion, a theory of teaching prepares the teacher to perform his teaching responsibilities as effectively as possible (A teacher has to maintain a sort of contractual relationship between himself and his students. Through his teaching, he has to materialise this contract and for this purpose he is bound to engage in the specific teaching acts like analysis of the teaching task, setting of teaching objectives, identifying the entering behaviour of the students and selecting most appropriate teaching methods and strategies for the attainment of the set of objectives.

Thus, a theory of teaching can be described as the application of knowledge of psychology for improving classroom teaching practice and the teaching skills of a teacher.

From these definitions the nature/functions of theories of teaching can be summarized in the following way.

1. Theory of teaching is directly linked with the psychology of instruction. It may draw its material from various theories of learning, motivation etc. Theories of teaching are evolved out of the logical insight into the learning process and logical analysis of the tasks.
2. Theory of teaching explains and describes the behaviour of the teacher in the classroom in order to help the students in better learning.

3. In contrast to learning theories which are psychological in nature, teaching theory is predominantly social in nature.

4. A theory of teaching is much more than a theory of learning. While a learning theory is limited to describe, explain the nature of learning, teaching theory prescribes the factors, conditions, strategies, etc., for ensuring effective learning.

5. Theory of teaching presents a systematic view of teaching by specifying relations among variables of teaching process.

6. Theory of teaching equips a teacher with proper theoretical background and training for accomplishing this task.

7. A theory of teaching points out the proper way of effective knowledge, skill or attitude of the student.

9. Theory of teaching helps in the implementation of a contractual relationship between the teacher and the taught.

10. Theory of teaching can be used to manage teaching in terms of its planning, control and prediction.

11. A theory of teaching describes, justifies, explains and suggests the most appropriate way of manipulating the elements and variables involved in the teaching process.

12. A theory of teaching which works well in a particular teaching-learning situation, may not be suitable in others. As teaching is a complex phenomenon comprising of many diversified activities, no single teaching theory can be prescribed for all the teaching-learning situations.

The aim of the process of teaching is to help the students in their learning tasks and in their development. For the realisation of this aim the teachers have to equip themselves adequately. The teaching activities are practical in nature and need a lot of theoretical support. (Bridge construction needs theoretical, pre-planning, guidance and preparations).

A teacher has to understand the nature of his job, his teaching tasks and his responsibilities towards building his students future and developing their potentialities. Hence, the need of a theory of teaching is felt on account of the following purposes served by it.

1. It helps in understanding the nature and process of teaching by describing (a) what is teaching? (b) analyses of teaching, (c) relationship between teaching and learning and (d) conditions and factors affecting teaching-learning etc.

Theories of Teaching

2. It helps in the proper formulation of teaching objectives, defining these objectives in behavioural terms and explaining how these objectives can be effectively achieved by suggesting appropriate teaching techniques and strategies.

3. It helps in understanding the role of different variables involved in the teaching process, their interrelationships and manipulations in order to achieve maximum learning.

4. It helps in developing proper teaching models, teaching and instructional designs, and teaching systems for a particular teaching-learning situation.

Thus, teaching theory tries to equip the teachers with all essential knowledge, facts, principles and theoretical understanding related to their teaching tasks, behaviours and teaching process. It provides general and specific directions for the teachers in their teaching path to become effective teachers.

According to H.C. Morison (1934),

“Teaching is an intimate contact between a more mature personality and a less mature one which is designed to further the education of the latter”.

According to N.L. Gage (1962),

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

Functions of theories of teaching:

1. It helps to understand the nature of teaching.

2. It explains the relationship and role of different variables in teaching process.

3. It gives the knowledge about the assumptions of teaching activities which provides guidelines for organising teaching.

4. It explains the relationship between teaching and learning and identifies a common factor.

5. Instructional designs can be developed with the help of theories of teaching.

6. It provides the scientific basis for planning, organizing leading and evaluating the teaching (classroom management).

7. It helps in studying the classroom teaching problems scientifically (Action Research)
(8) It can develop teaching skills and strategies with employing competency by the use of theories of teaching.

(9) It helps for achieving the teaching objectives successfully.

(10) N.L. Gage suggests that, it may be used to increase understanding, prediction and control of teaching.

**Bases of theories of teaching:**

According to Freight, “Theory is a set of assumptions which would be derived by purely logic-mathematical procedures with a large set of empirical laws. It furnishes an explanation of these laws and unifies the originally relative heterogeneous areas of subject matter characterised by those empirical laws.”

Teaching: The terms teaching refers to:

- Body of knowledge, a body of ideas and a system of beliefs.
- An occupation of a profession in which teacher instructs and educates.
- A way of marking something known to others usually in the routine of a school.

Bases: A combined idea of both theory and teaching leads with some important bases. Such bases of theories of teaching are:

1. **Epistemology**
   - A branch of philosophy which deals with the structure and functions of knowledge.
   - It refers to the content of an education system.
   - It accounts for quality and quantity of education.
   - It is a quantitative measurement with a deliberate planning.

2. **Logic**
   - It is a sequential form of thinking.
   - It accounts for reasoning which is a sort of convince and mental adjustments.
   - It accounts for indo-deductive approach which is the whole of sequencing.
   - It is a logical inductive approach thus leads to greater thinking process.

**Theories of Teaching**

According to Bruner (1964), “Theory of teaching is an explanation of general methodology of teaching.”

According to Kerlinger (1965), “A theory of teaching is a set of interrelated constructs, definitions, propositions which presents a systematic view of teaching by specifying relations among variables with a purpose of explaining and predicting.”

**Types of theories of teaching**

Theories of teaching are broadly classified into 3 types as

1. Formal theories of teaching
2. Descriptive theories of teaching

1. **Formal theory of teaching:** This theory of teaching is also known as “philosophical theory of teaching.” It is based on certain logic, metaphysical and epistemological assumptions and proposition. This includes:
   - (a) Meauitic theory of teaching
   - (b) Communication theory of teaching
   - (c) Moulding theory of teaching
   - (d) Mutual enquiry theory of teaching.

2. **Descriptive theory of teaching:** These are based on imperial evidence and observations called as descriptive theory. Its purpose is to predict the relationship between effectiveness of different variables of teaching. It includes some of the theories like:
   - (a) Gagne’s Hierarchical theory
   - (b) Atkinson’s Decisions-theoretic analysis of optimizing learning
   - (c) Bruner’s Cognitive theory.

3. **Psychology:**
   - It is based on the criteria of conditions of learning.
   - It also accounts for theories of learning.
   - It also leads to the development of personality which is a psychological concept.
FORMAL THEORIES OF TEACHING

These theories are based on certain principles of thought, science of knowledge and philosophical theories of teaching.

The following theories are formal theories;
1. Maeuitic theory of teaching
2. Communication theory of teaching
3. Moulding theory of teaching
4. The mutual inquiry theory.

1. Maeuitic theory of teaching: It is an earliest philosophical theory which originated from the ideas and methodology of teaching put forward by the ancient Greek philosophers Socrates and Plato. It also reflects the educational philosophies of Indian educationists like Vivekananda and Gandhi. There philosopher’s assumption is that all knowledge rests within the individual child and the task of teaching is to unfold this knowledge. Teaching has to draw out the best in child’s body, mind and spirit, and nothing has to be induced from outside. The teacher’s job is to help the child in the recollection of the stored knowledge existing in the child’s mind. The child has all the inherent potential (like a seed). Teaching has to provide adequate opportunities for the proper germination and growth of these potentialities. The special features of this theory are:

- The knowledge to be gained by the child through education already lies within him in the shape of forgotten knowledge. The task of teaching is to help the child in its proper recollection.
- Every child is born with inherent capacities and abilities. Teacher’s job is to help the child in actualising these potentialities and making his internal, external.
- In the upbringing and education of the child, this theory puts more emphasis on hereditary than environmental influences.

2. Communication theory of teaching (Teaching Methods): Quite contrary to maeuitic theory, this theory believes that the child has nothing with him like forgotten knowledge or inherent capacities which need to be unfolded through teaching. Knowledge, skills, attitudes or interests have to be given from outside. It is not the child but the teachers who are pre-equipped with knowledge and skills; through teaching it is their duty to communicate the same by adopting proper methods to the child for his development. Variety of methods and devices like narration, explanation, demonstration, experimentation, etc., could be used by the teacher for making his communication as effective as possible. This theory considers teaching as a way of effective communication. Excellency of a teacher depends on how well the teacher is able to communicate to his students for bringing desirable changes in their behaviour.

On philosophical basis this theory is considered and conceived through the Herbartion assumption of appreciative man i.e. assimilation of new experiences to a man, already existing in the mind (consisting of past experience and old ideas). Consequently communication theory advocates that while communicating with their students, teacher (i) must make use of their past experiences. (ii) Should make use of explanation, narration and demonstration activities, as methodology (iii) should try to make maximum use of their student’s memory and perceptual abilities (iv) must follow the five famous Herbartion steps—preparation, presentation, assimilation, organization and recitation while planning their lesson.

The main features of communication theory are:

- What is to be taught to the child lies outside and not within the child?
- The teacher has to provide the knowledge, skills, etc., to the child by using the communication strategies involving telling, showing and doing activities.

3. Moulding theory of teaching (Environmental play a key role): This theory considers teaching as a process of behavior modification or a way of shaping and moulding the student’s behavior and personality in a desired pattern. It is the outcome of the ideas propagated by the school of behaviourism and involves the principle of stimulus response theories including operant conditioning. As a result in the teaching advocated by this theory, environmental influences hold the key and thereby whole attention is paid towards setting the proper environment for the teaching and arranging most appropriate language experiences leading to the satisfactory and rewarding results. Care should be taken to provide immediate reinforcement for the shaping of sound conduct, attitude, beliefs along with the assimilation of right knowledge and useful skills.

The essential features of this theory are:

- Environmental influences play a great role in the shaping and moulding of human behavior and personality.
- Teaching is nothing but an attempt for the proper organisation of environmental influences to help the child in the shaping and moulding of his behavior in a desirable way.
In the process of teaching due care should be taken to maintain proper link between the stimulus and response by arranging relevant learning situations.

The teacher’s main task lies in arranging proper learning situations and provides reasonable freedom to the child for learning and developing his potential in a desired way.

Sensation and perception play a key role in the process of communication.

For better communication, the new knowledge should always be linked with the past experiences and old knowledge possessed by the students.

Hereditary and environmental factors, both should be provided due importance in the process of teaching.

**4. The mutual enquiry theory:** This theory believes that a child is very curious by nature and he is in the habit of acquiring knowledge by putting questions or making inquiry about things and happenings. Therefore, teacher’s main duty lies in arranging the learning situations in such a way as to help the child to discover the knowledge by him through enquiry. This has to be done by investigating about:

- The nature, interest and basic potential of the child,
- The nature of the subject matter or learning experiences to be acquired through inquiry
- The method of enquiry suited to the nature of the subject and needs of the learners and
- The nature of the environmental setting that can be helpful in making use of such enquiry and problem solving approach.

According to this theory, teaching becomes a cooperative enterprise in which both the learner and teacher engage in the process of enquiry and achieve the desired instructional objectives by adopting enquiry and investigating approach. Here the task of acquisition of knowledge by the learner becomes possible through a proper environmental setting in which the child is helped to achieve the desired instructional objectives with limited guidance from the teacher. He is helped in discovering the knowledge by himself instead of its mere telling by the teacher or reproduction by the teacher. The teaching-learning process is shared by the learner and teacher through mutual enquiry by raising questions, sharing the discovery of new knowledge and arriving at the new and novel ways of solving the problems.

The main features of this theory are:

- Knowledge is best acquired through enquiry and investigation.
- Better teaching involves the organisation of teaching learning situations in such a way as to help the child to discover knowledge with limited guidance from the teacher.
- Teaching and learning is a cooperative enterprise in which both teacher and learner have to participate by adopting enquiry and problem solving approach.
- Teacher and learner both should try to select most appropriate method for the enquiry and investigation depending upon the nature of the subject matter, available environmental settings and stipulated instructional objectives.
- This theory recommends the use of methods promoting mutual enquiry such as enquiry training method, heuristic or discovery method and problem solving method.

**Descriptive Theories of Teaching**

Theories of teaching which try to describe the variables involved in the process of teaching in terms of their interrelationships and predicated effectiveness are called descriptive theories of teaching. These descriptions are based on empirical evidences and objective observations. Since they are also predictive and prescriptive in nature they are also called Prescriptive theories of teaching. They prescribe and point out the proper way of organising instructional process for achieving the desired instructional objectives and consequently these are responsible for the origin of a number of theories of instruction like:

1. Gagne’s Hierarchical Theory of Instruction.

**Gagne’s Hierarchical Theory of Instructions**

Robert Gagne (1970) provided a theory of instruction based upon his own ideas about types and conditioning of learning. Main ideas of his theory of instruction are summarised below:

1. First of all Gagne provided eight types of learning and arranged them in a hierarchical order proceeding from simple complex as:
   - (i) Signal learning
   - (ii) Stimulus response leaning

2. The main features of this theory are:
   - Knowledge is best acquired through enquiry and investigation.
   - Better teaching involves the organisation of teaching learning situations in such a way as to help the child to discover knowledge with limited guidance from the teacher.
   - Teaching and learning is a cooperative enterprise in which both teacher and learner have to participate by adopting enquiry and problem solving approach.
   - Teacher and learner both should try to select most appropriate method for the enquiry and investigation depending upon the nature of the subject matter, available environmental settings and stipulated instructional objectives.
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1. Gagne’s Hierarchical Theory of Instruction.
(iii) Chaining
(iv) Verbal association
(v) Discrimination learning
(vi) Concept learning
(vii) Rule learning
(viii) Problem solving

The 8 types of learning arranged in a hierarchical order clearly set the way in which a child learns by following the maxim ‘simple to complex’. Accordingly Gagne asserted that the teacher must place his instructional strategies so as to suit the sequential order of hierarchy of learning for leading the child from simple to complex.

(2) Later Gagne and his associate Briggs (1972) identified five learning outcomes associated with his eight types of learning, viz.,

(i) Motor skills
(ii) Verbal information
(iii) Intellectual skills
(iv) Attitudes and
(v) Cognitive strategies and arranged them in a hierarchical order.

Based upon this hierarchy Gagne proposed that the instructional procedure must be so planned as to suit the hierarchy of learning outcomes, i.e., the child should be made to learn the motor skills and provided with verbal information before teaching him intellectual skills and other cognitive strategies.

(3) Gagne (1977, 1979) working on the similar lines after this he proposed conditions that must be satisfied if learning is to take place. These conditions were named events/phases of learning. A child has to pass through these events in a hierarchical order while engaging in a learning task. Since instruction is meant for helping the child to learn, the events of instruction or instructional strategy should essentially be linked with the events of learning. The events of learning as proposed by Gagne in his theory of instruction have been presented ahead in a hierarchical order in the figure.

<table>
<thead>
<tr>
<th>External conditions</th>
<th>Internal conditions</th>
<th>Instructional evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Learning events)</td>
<td>(Process in learner’s mind)</td>
<td></td>
</tr>
<tr>
<td>Motivation phase</td>
<td>Expectancy</td>
<td>(i) Activity motivation, informing learning of the objective</td>
</tr>
<tr>
<td>Apprehending Phase</td>
<td>Attention: Selective Perception</td>
<td>(ii) Directing attention</td>
</tr>
<tr>
<td>Acquisition phase</td>
<td>Coding: Storage entry</td>
<td>(iii) Stimulating recall</td>
</tr>
<tr>
<td>Retention Phase</td>
<td>Memory storage</td>
<td>(iv) Providing learning guidance</td>
</tr>
<tr>
<td>Recall Phase</td>
<td>Retrieval</td>
<td>(v) Enhancing retention</td>
</tr>
<tr>
<td>Generalisation Phase</td>
<td>Transfer</td>
<td>(vi) Promoting transfer of Learning</td>
</tr>
<tr>
<td>Performance Phase</td>
<td>Responding</td>
<td>(vii) Eliciting perform by reinforcement providing feedback.</td>
</tr>
<tr>
<td>Feedback Phase</td>
<td>Reinforcement</td>
<td></td>
</tr>
</tbody>
</table>

Gagne’s theory suggests to lead students through a series of instructional events that have been identified as associated with learning events and conditions essential for learning.

The above diagram illustrates that an act of learning consists of eight phases. Each of these 8 phases includes external conditions or events that are to be structured by the learner or teacher.

For example: At the motivational phase, the learner needs to be motivated. It may be done by the learner himself, or the teacher has to create events or conditions for motivating the learner.

Each external conditions or event of learning is associated or paired with the internal events or conditions, the process going on within the learner’s mind. For ex., the events of motivation is associated with expectancy, the desire to expect or achieve something as an outcome of learning. These internal events associated with the external events or phase of learning counterparts are given in the rectangular boxes. While discussing the phases or events of learning in the process of learning Gagne pointed out the different instructional events in hierarchical order that do take place in a process of instruction.
Accordingly Gagne’s theory of instruction planned the instructional strategy adopted by the teacher through the following steps.

- Get the students motivated to learn. It can be associated through creating student’s interest in the learning task. To inform the learner about the learning outcomes or objectives attained may prove a good motivating force.

- Make the students attend to presented learning materials.

- To assimilate new learning material by stimulating recall of the previous related learning.

- To provide sufficient guidance for learning and memorising the presented material.

- To help the learners for the retention of newly acquired learning experiences.

- To help the students to transfer or generalise the facts, principles or concepts to new situations.

- To help the students to demonstrate their achievement or performance and to provide them with immediate feedback.

Richard. C. Atkinson (1968) while working for the Computer Assisted Instruction (CAI) for dealing effectively with the problem of individual differences in learning came out with a theory of instruction leading the students to optimal learning. An instructional strategy, according to this theory it is composed of the following steps:

(1) The teacher first must lay out instructional objectives specified in behavioural terms.

(2) The teacher should then chalk out a model of the teaching-learning process by specifying the necessary instructional activities.

(3) A proper strategy is to be chalked out by measuring the attainment of each instructional objectives by designing suitable measurement scale.

**Bruner’s Cognitive theory of Instruction**

J.S. Bruner proposed this theory of instruction based on his ideas and assumptions which are as follows:

(1) Learning is not simply stimulus response (SR) conditioning or R>S> reinforcement but rather a cognitive process.

This cognitive process involves 3 simultaneous acts, viz.,

(a) Acquisition of new knowledge or information.

(b) Transformation of knowledge that one already possess and

(c) Checking the adequacy and pertinence of knowledge one has.

(2) Curiosity is the basic instinct possessed by every individual. Right from the period of infancy, knowledge is gained on account of the curiosity about the things, objects and events surrounding us and our attempt to involve ourselves in the knowledge getting process.

(3) Conceptualisation categorisation is the first major step in the process of learning. Human beings have a tremendous capacity to discriminate object/events in the environment, categorise or classify them in a generalised way. However, the child should be helped in the formation of right concepts from the very beginning. Bruner advocated the use of concepts attainment model devised by him for this purpose.

(4) The development of cognitive abilities in the human beings is a continuous processes. It takes place systematically in 3 developmental stages, viz.,

(a) Enactive mode/stage

(b) Iconic mode/stage

(c) Symbolic or representation mode/stage.
At the enactive stage the curious child gets access to some aspects of reality by resorting to motor responses thus, the first stage of learning consists of motor manipulation of the objects/events surrounding us. Hence, learning through manipulation of concrete objects or doing things should be a beginning step in any instructional strategy adapted by the teacher.

At the second iconic stage, the child is able to think about objects/events through mental images. He is now capable of representing the reality of objects/events through a set of images or graphics (ex., representation of a room through rectangular diagram).

After reaching the symbolic representation stage the child starts using symbols in place of images. Here language and symbolism play the key role in representing the reality of objects/events. This is the highest stage where concrete reality can be represented and manipulated through pure abstraction.

(5) Knowledge is important but knowledge itself is not the role power. It is the acquaintance and mastery over the process of knowledge getting that is important for the proper development of an individual. For this purpose, a theory of instruction should take into account 3 things:

(a) Nature of individual child.
(b) Nature of knowledge to be received by the children.
(c) Nature of knowledge getting process.

(6) Children should not be made to repeat, reproduce, and present the ideas/concepts/principles but should be encouraged to learn on their own and discover by themselves. Hence, they should be given proper opportunities for having their own active involvement in the knowledge getting process. Thus Bruner writes “We teach a subject not to produce little living libraries on that subject, but rather to get a student to think….. for himself to consider matters as a historian does, to take part into process of knowledge getting Knowledge is a process, not a product”.

For giving a practical shape to these ideas, he advocated Discovery Learning in his theory. By this approach, he wanted students to learn through their own active involvement in the process of learning, develop their independent problem solving skills, analyse and manipulate information and not simply absorb it, engage in the task of discovering and rediscovering and thus understanding by themselves.

(7) According to Bruner, teachers should follow a theory of instruction which helps them to achieve both goals of knowledge and knowledge getting process simultaneously. Hence, he advocated 4 major aspects in the process of instruction:

(a) Predisposition to learn: The child should be made willing and able to learn what he is going to experience through the given instruction before starting to teach.

(b) Structuring the knowledge: The learning experiences to be given or contents to be taught should be effectively structured to enable the students to grasp and relate the knowledge as effectively as possible. It is difficult to teach everything about thing, to the students, hence it is necessary to make the students understand the basic structure of the knowledge related to a subject. They should be made to learn a generalised set of basic ideas/principles to be used in present and future learning situations. The term ‘coding’ was used for such generalisation by Bruner. For effective instruction, the teachers should try to seek the best coding system which helps in teaching the subject matter in such a way as to ensure maximum opportunities to generalise. A code built upon generalisation will thus help their students for a full group comprehension of the subject.

(c) Sequencing the presented material: A teacher should properly and effectively sequence the subject matter and learning experiences. Since learning follows the sequence of enactive, iconic and symbolic representation of reality, the subject matter should be tailored and sequenced accord and also presented material should match the needs of the growing mind at their respective age levels. Thus, Bruner’s theory of instruction emphasises first to convert knowledge into a specific structure within the grasp of students of various ages and then to sequence, thus structured material into a proper form well with their existing modes of representation.

(d) Providing due reinforcement: According to this theory, teachers should pay due attention to proper reinforcement in the instructional process. Intrinsic reinforcement should be emphasised (internal satisfaction, self-reward). Extrinsic reinforcements (rewards and punishments) may adversely affect the students attempt of self-learning and independent problem solving. Extrinsic motivation and reward tend to increase the chances of repetition of behavior and punishment for it is correction.

With these views, Bruner termed his theory to be descriptive/prescriptive as well as normative. Descriptive, because it tries to prescribe/describe rules and principles concerning affective ways of achieving instructional objects. Normative because it sets the norms before teachers in the form of necessary teaching-learning conditions for achieving desired teaching objectives. As he was a cognitive psychologist, he concentrated
on devising ways and means of development of cognitive abilities of children by emphasising on independent problem solving and discovering learning.

The summary of his suggestions and guidelines in his theory are:

(1) Try to make best use of student’s natural interest and instinct of curiosity.

(2) Encourage students to think and learn independently instead of giving them ready material, let them discover or rediscover it through their own efforts.

(3) Set the learning situations or conditions in such a way as to:
   - arouse children’s curiosity and motivation.
   - minimise the risk of failure and
   - be as relevant as possible for the attainment of teaching-learning objects.

(4) Do not resort to spoon-feeding. Discourage students resorting to mechanical practice, repetition and reproduction of ideas. Their level of cognitive abilities and modes of representation of reality should be given due consideration while providing them any piece of instruction.

(5) Help students in proper identification and categorisation of objects and events in a particular and generalised way. Follow concept attainment model by Bruner for proper concept formation.

(6) Help students to learn the way of acquiring knowledge and thus get them acquainted with the knowledge getting process besides acquiring useful and relevant fund of knowledge.

(7) Arrange the learning material into a proper structure and sequence it properly for its adequate grasping and understanding by the students.

(8) Reinforce the learning behaviour of the students by concentrating on the measures of suitable intrinsic motivation or self-reward.

**Normative Theories of Teaching**

Like animal learning, human learning cannot take place under rigidly controlled conditions. We have normal conditions and set up for our teaching-learning activities. Therefore, there is a great need for theories which can explain, guide and control the variables involved in the process of teaching under normal classroom conditions. Normative theories serve this purpose. These theories throw light on the relationship among the teaching variables on the basis of observations carried out in normal teaching conditions. They set the norms for the teaching – learning conditions best suited for achieving the desired teaching-learning objectives. These theories are applicable for more generalized set of situations or conditions available in a normal classroom set-up. The following theories come under normative theories.

2. Ryan’s Theory of Teacher Behaviour.

**N.L. Gage’s Theory of Teaching:** is influenced by the ideas propagated by the school of cognitive psychology. Cognitive psychology does not allow the teacher to resort to simple stimulus response (S-R) mechanism or habit formation. It insists the teachers to use the principles of cognitive learning such as meaningful organisation of the perceptual field, information processing, independent problem solving etc., for utilising the cognitive abilities of the learners to the maximum.

The main views of Gage’s theory are:

1. Teaching task is mainly concerned with helping the students in proper comprehension or meaningful learning of the content material.
2. They can have proper comprehension if this content material is organised, arranged and presented in a proper way by following the principle of cognitive learning. The programmed learning material is one such well structured and organised material.
3. Teaching task consists of many activities that needs to be planned and organised according to the available situations and circumstances as given below:
   - The type of learning to be played by teacher is like philosopher, motivation counselor, demonstrator, supervisor etc.
   - The type of education objectives to be achieved.
   - The type of learning in which the learner is to be engaged (motor, learning, concept learning, problem solving etc).
   - The type of the stages or components of learning such as preparing the students to learn, sustaining their attention and interest, helping in proper comprehension, reinforcing their learning, evaluating their learning outcomes etc.

**Ryan’s Theory of Teacher Behaviour**

D.G. Ryan put forward a theory of teaching based on the concept of teacher behaviour. According to it teaching is greatly influenced by the
verbal and non-verbal behaviour of the teacher demonstrated by him in the classroom in order to induce learning. Therefore, the improvement in teaching and classroom instruction is dependent on the quality of the teacher behaviour demonstrated by the teacher in the classroom activities. Basic assumptions of teacher behaviour are:

- Teacher behaviour is a function of a situational factors present at the time of teaching and personal characteristics of the individual teacher.
- Teacher behaviour is observable and thus, can be measured in terms of desirable or undesirable behaviour for the purpose of good teaching.

Based on these assumptions, this theory of teacher behaviour suggests the following measures to bring improvement in the teaching process.

1. The teaching-learning conditions must be so designed as to help the teachers in maintaining proper teacher behaviour.
2. The teacher must pay due attention for picking up the desirable behaviour and personal characteristics helpful in good teaching and appropriate classroom interaction.
3. Since teacher behaviour is observable and can be measured to a reliable extent, good technique of its observation and measurement like Flanders (Flanders’ interaction analysis), be practical for providing pre-service and in-service training to the teacher. Teachers may also adopt these techniques for their self-evaluation resulting in the improvement of their both verbal and non-verbal behaviour.

Mitra’s Psychological Theory of Teaching

This theory was put forward by Sahib K, former director of NCERT. It attempts to apply the psychological principles in the field of teaching. The main ideas propagated by this theory are:

- Teaching needs to be restricted to the formalised instructional situation. However, it may take place in and outside the classroom and school.
- For teaching to take place, there must be at least two persons, one teacher and the other taught. These two persons need to be bound by contraction relationship. The teacher has a responsibility of influencing the behaviour of the taught in order to lead him from his entry behaviour to the set terminal behaviour.
- Teacher should formulate his teaching task based upon his knowledge of the psychological principles related to the psychology of individual differences, learning, intelligence, personality, aptitude and achievement. The teaching task so formulated may include the activities like:

Theories of Teaching

(i) Analyzing teaching task
(ii) Identifying entry behaviour of the pupils.
(iii) Defining teaching objectives and
(iv) Selecting teaching strategies.

Clarke’s General Theory of Teaching

This theory has been propagated by S.C.T. Clarke (1970). It is termed as general theory of teaching on account of its general nature outlined below:

- It consider teaching as a generalised phenomenon or process instead of specific one.
- It takes into account the teaching-learning situation in general common to all types of learning.
- The principles in this theory are generally applicable to all types of teaching carried out at different stages for attaining general teaching objectives.
- It gives due significance to all the variables, in general, involved at the different levels in the process of teaching.
- It talks about the general strategies adopted by a common teacher to deal with all types of learners in varied teaching-learning situations.

The views expressed by Clarke in his general theory of teaching can be summarized in three different heading are:

(i) Concept about Teaching
(ii) Variables of Teaching.
(iii) Levels of Teaching.

Concept about Teaching

This theory considers teaching as a general phenomenon rather than a specialised one. According to the teaching refers to activities (general in nature) that are designed and performed to produce change in student’s behaviour.

Variables of Teaching

According to this theory, teaching process in general involves three types of variables.

(a) Independent variable: the teacher
(b) Dependent variable: the learner.
Intervening variables: the teaching learning situations, curriculum, teaching aids, strategies and evaluation devices etc.

Levels of Teaching

This theory mentions about 3 levels in a process of teaching.
Level 1: It sets the stage for starting the act of actual teaching.
Level 2: The stage of actual and active teaching.
Level 3: The stage of appraisal and evaluation of the product and process of teaching.

Besides mentioning these levels, this theory provides rules and principles to be observed for carrying out a number of activities at different levels.

Principles to be observed at level 1: According to Clarke’s theory a teacher has to keep in mind the following principles for creating necessary conditions to initiate the process of teaching.
1. Proper opportunity must be provided for communication between teacher and students and among students.
2. Develop teacher-pupils relationship in such a way that it may induce better teaching.
3. While teaching a group, care should be taken to build up a social environment helpful in better learning.
4. Teacher must ensure that students are sufficiently motivated to learn that students are active in the process of teaching.

Principles to be observed at level 2: The level 2 represents the stage of action and is related with actual teaching and learning. The Clarke’s general theory of teaching provides the following broad guiding principles to be observed by the teacher.
Teacher must make use of appropriate teaching strategies that are common with
– the needs and characteristics of the learners.
– the learning theories.
– the specific curricular objectives.

Principles to be observed at level 3: Teaching activities at level 3 are related to reinforcement and evaluation of the activities carried out at level 2. This theory provides the following guidelines to teachers at this level.

Theories of Teaching

1. Teacher must have a proper assessment and evolution of students’ progress in terms of realisation of set objectives.
2. Based upon this assessment and evaluation, he must accordingly plan for reteaching, modifying and substituting the teaching strategies, bringing modification and alterations of the teaching objectives etc.
3. For proper evolution the teacher must take care of the definiteness of the instructional objectives. Each of these objectives should be stated in definite behavioural terms incorporating the minimum level of performance demonstrated by the pupil at the end of teaching activity.
4. It must be able to get proper feedback from the result of such assessment and evaluation.

Distinguishing teaching strategy from the similar terms and concepts:

The term teaching strategy is sometimes confused with other similar terms and concepts like teaching-methods, techniques, devices, and tactics etc., which are associated with teaching activities of a teacher. The distinction among these terms must be understood.

Differences between teaching method and teaching strategy:

<table>
<thead>
<tr>
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<th>Teaching tactics</th>
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<tbody>
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<td>(1) Teaching tactics represent those activities and behaviour of the teacher which help in devising and implementing a suitable strategy for the realisation of the set objectives.</td>
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<td>(2) Teaching strategy includes the activities both on the part of the learners and the teacher for creating appropriate teaching-learning environment for the realisation of the objectives.</td>
<td>(2) Teaching tactics are concerned only with the behaviours and activities of the teacher responsible for creating suitable learning structure.</td>
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Methods and Strategies

Different teaching methods like lecture method, demonstration method, inductive-deductive method, heuristic method, problem solving method, project method etc., are used for our presentation of the subject matter to the students. Any method which we use is always selected and directed to serve our purpose of presenting the subject material as effectively as possible. Thus, any method reflects a particular mode of presentation of some specific contents of a subject. On the contrary, a strategy is selected and employed not only for the effective presentation of some specific subject material but also for the realisation of the pre-determined teaching-learning objectives. Thus strategy as a term is more comprehensive in its scope as well as structure in comparisons to a method. The distinction between them is summarised in the following table.

The distinction made between these 2 terms sometimes get narrower as both serve as the means for carrying out the task of teaching effectively. That is the reason why we have many common names included in both the categories like lecture, demonstration, problem solving, heuristic project etc. However, the line of demarcation is quite clear. All these may be refers as strategies when utilised as a means for the realisation of the well defined objectives. However, when, their field of application or role is limited only to the presentation of subject matter and they serve only as a mode for such presentation, these are referred to as methods and strategies.

We employ a number of tactics for the effective implementation of a teaching strategy in the same way as we employ appropriate teaching techniques and teaching aids for the effective implementation of a teaching method.

E. Stones and S. Morris (1972) defines teaching tactics as “Teaching tactics represent those activities and behaviour of the teacher which help in devising and implementing a suitable strategy for the realisation of the set objectives.”

Differentiation between the terms teaching strategy and teaching tactics

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Thus any task for its effective performance has to be dealt with theoretically and practically. A theory provides a framework, useful planning and scheme incorporating effective steps to be taken for performing a task or experiencing any activity as successfully as possible. Teaching is a task, undertaken by the teacher to produce desirable changes in the behaviour of the students. For performing this task effectively a teacher needs some pre-planning and theoretic understanding of activities that are desirable to set his behaviour in tune with the task to be performed by him. Theories of teaching, equip him with such theoretical understanding and framework.

**EXERCISES**

1. Briefly explain the concept of teaching.
2. Explain relationship between teaching and learning.
3. What is anatomy of teaching?
4. Explain the phases of teaching.
5. State Psychological and Epistemological bases for teaching.
6. Explain types of theories of teaching.