Teaching Principles

Prepared by

M. Khairat M. Rashed, Ph.D.

Faculty of Education at Qena

Department of Curriculum & Instruction

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Physics & Chemistry / Biology / Math

(English Program)

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Contents

Chapter One

Teaching and Its Fundamental Basis

1. Teaching and Education

Teaching is an essential part of education. Its special function is to impart knowledge, develop understanding and skills. It generally excludes inculcation of values like truth. It is usually associated with the imparting of knowledge of 3 R's - Reading, Writing and Arithmetic - representing various school subjects. Education, on the other hand, has a wider connotation. It implies 7 R's - Reading, Writing, Arithmetic, (All three denoting school subjects), Rights, Responsibilities, Relationships and Recreation (Requirements and ideals of a modern democratic state). In teaching we limit our outlook omitting those more important means of education which are involved in the school as a systematically organized social community, including its tone or general moral environment, its government and discipline, and that potent influence - the personality of the teacher. James Welton observes, "We treat teaching by itself, because it is an aspect of school life which can be singled out in thought, though it cannot be separated in reality, from the whole of which it forms a part and because it covers a fairly consistent body of doctrine. It is true that the value and success of all school teaching depends on those wider and deeper elements of school life-tone, discipline, etc. - which are omitting. But it is true that whilst the latter may be excellent the former may be of poor quality."

2. Definitions, Meaning, Nature, Characteristics and Functions of Teaching

Definitions of Teaching and Meanings

1. Albert Einstein (A Swiss Physicist 1879-1950): The supreme art of teaching is to awaken joy in creative expression and knowledge.
2. American Educational Research Association Commission in 'Handbook of Research on Teaching' (1962): Teaching is a form of interpersonal influence aimed at changing the behavior potential of another person.
3. Amidon and Hunter (1967): Teaching is an interactive process, primarily involving classroom talk, which takes place between teacher and pupils and occurs during certain definable activities.
4. Anatole France (French novelist 1844-1924): The whole art of teaching is only the art of awakening the natural curiosity of young minds for the purpose of satisfying it afterwards.
5. 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 almost instructions and way of structuring information or ideas gleaned.)
6. Burton (1963): Teaching is the stimulation, guidance, direction and encouragement of learning.
7. Clark (1970): Teaching refers to activities that are designed and performed to produce change in student (pupil) behavior.

8. Floyed Well (1958): Children are notoriously curious about everything except the things people want them to know. It then remains for us to refrain from forcing any kind of knowledge upon them and they will be curious about everything.

9. Galileo Galieleo (Italian astronomer 1564-1652): You cannot teach a man anything, you can only help him to find it himself.

10. H.C. Morrison (1934): Teaching is an intimate contact between a more mature personality and less mature one which is designed to further the education of the latter.

11. Israel Sheffler (1966): Teaching may be characterized as an activity aimed at the achievement of learning and practiced in such a manner as to respect the student's intellectual integrity and capacity.

12. John Dewey (1859-1952): One might as well say he has sold when no one has bought, as to say he has taught when no one has learned.

13. 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.

14. John Chapinan (1960): The gift of teaching is a peculiar talent, and it implies a need and craving in the teacher himself.

15. Joyce and Well (1972): Teaching is a process by which teacher and students create a shared environment including set of values and beliefs (agreement about what is improvement) which in turn color their view of reality.

16. J. Wilton (1963): To know where the pupils are and where they should try to be are the first two essentials of good teaching.

17. Michael Oakeshort (1966): Teaching is two-fold activity of communicating information and communicating judgment.

18. N.L. Gage (1962): Teaching is a form of interpersonal influence aimed at changing the behavior potential of another person.

19. Ned. A. Flanders (1970): Teaching is an interaction process. Interaction means participation of both teacher and students and both are benefited by this. The interaction takes place for achieving desired objectives.

20. Paul Goodman (1980): A good teacher, feels his way, looking for response.

21. Thomas P. Green (1971): Teaching is the task of a teacher which is performed for the development of a child.

22. W.R. Ryburnt (1946): Teaching includes the training of emotions of the child. It is one of the means of giving right feeling to the children.

23. William Lyon (1970): In my mind teaching is not merely a life work, a profession, an occupation, a struggle, it is a passion. I love to teach, as a painter loves to paint, as a musician loves to play, as a singer loves to sing, as a strongman rejoices to run a race.

24. Yoakm and Simpson: Teaching is a means whereby society trains the young in a selected environment as quickly as possible to adjust themselves to the world in which they live.

An Analysis of Definitions of Teaching

In the type of teaching as mentioned by Morrison, teaching is reduced to what the teacher does. There is interaction but the flow of instruction is from the teacher. In this type of teaching, the learners may become passive listeners.

Brubacher' s definition of teaching assigns more place to the learner. This approach tends to be child or learner-centered.

B.O. Smith seems to be more pragmatic in his approach to teaching. He accepts certain limitations of the learner in the teaching learning process.

Smith's definition contains the following three elements :

(a) Teaching is a system of action.

(b) Teaching is a goal-directed action.

(c) Teaching takes place in a situation comprising the controllable and uncontrollable set of factors.

Who, Whom, Why, Where, What, How and When of Teaching

A review of the definitions given above reveals that to play his role competently in teaching, a teacher is expected to understand the significance of the following:

1. **Who is to teach.** The teacher is to teach and he must understand himself thoroughly - his strengths and weaknesses - and strive to present a reasonably good model before his students.
2. **Whom to teach.** The child is to be taught. Therefore, a teacher should understand him thoroughly - his abilities, aptitudes, attitudes, manners

and temperaments and accordingly cater to the individual differences of students.

3. **Why to teach.** The teacher should always keep in view that the aim of education is to develop harmonious personalities, who are culturally refined, emotionally stable, ethically sound, mentally alert, morally upright, physically strong, socially efficient and spiritually enlightened. He should not forget even for a moment that the traditional 3 R's have been replaced by 7 R's, that is, reading, writing, arithmetic (representing various disciplines), rights, responsibilities, relationships and recreation.

4. **Where to teach.** The teacher ought not to visualize the school to be merely a place of imparting information but a place where men of tomorrow are trained to take their place as enlightened citizens in the society and contribute to national development.

5. **What to teach.** The teacher must have mastery over the subject he teaches.

6. **How to teach.** The teacher must use new teaching-learning technology to make his teaching effective and inspirational.

7. **When to teach.** Appropriate steps need to be taken by the teacher to develop motivation of the student in the entire work.

Teaching and Instruction

Instruction is primarily concerned with the development of knowledge and understanding in the pupil about a thing, system or process. Imparting of knowledge and understanding merely represents one of the several objectives which we want to achieve through teaching. Teaching is

concerned with all the domains of pupil's behavior, i.e., cognitive, conative and affective. Instruction is a part of teaching.

The distinction between teaching and instruction may be seen from another angle. The face to face interaction of the teacher and taught found in teaching is not so much essential in the process of instruction. In instruction, a teacher may be replaced by the programmed material, computer teaching machine, radio and television etc. A teacher cannot be replaced by these aids. Of course, in teaching a teacher makes use of them. Thus instruction is one of the several modes of teaching.

Nature and Characteristics of Teaching

1. **Teaching is Giving Information.** There are many things that the students cannot find out for themselves. There are many things that they can never know unless they are told. There are many things the use of which they do not know. These things they have to be told. So one essential part of teaching is communicating knowledge. Knowledge must be given in a systematized manner. Teaching should be made interesting. It must, however, be stressed that knowledge aspect should not be unduly emphasized.

2. **Teaching is Causing to Learn.** It is wrong to think, that knowledge can be passed on from one person to another like money. Knowledge will be received only when the students are prepared to receive it. Real teaching consists in persuading the child, by one method or the other to learn for himself. The teacher is an instrument in helping a child to learn and to do things for himself.

3. **Teaching is a Matter of Helping the Child to Respond to his Environment in an Effective Manner.** F.N. Freeman observes, "It is not what is presented to the child which educates him, but rather the

reaction that he makes to what is presented. Certain children may fail entirely to respond to a lesson, or may respond in a wrong manner. If a child's response to his geography is to memorize the words, without any understanding of the facts they represent, the lesson is not educative for him (he has not been taught), although it may be educative for the child next to him who reacts properly."

4. **Teaching is Helping a Child to Adjust himself to his Environment.** A child is reacting in some way or the other to his physical and social environment, from his very birth. His reactions are both fruitful and harmful. Teaching should help the child to make successful adjustment. This may be done in two ways. Sometimes we modify the environment and at other times strengthen the child. Teaching should make the child socially efficient, that is, a worthy member of society, making his contribution to the common good. Yoakam and Simpson write, "Teaching is a means whereby society trains the young in a selected environment as quickly as possible to adjust themselves to the world in which they live. In primitive societies this adjustment means conformity with things as they are. In more advanced civilizations, such as ours, effort is made not only to adjust to things as they are, but also to make an advance in the improvement of conditions of life by training the young in modes of thinking and acting which will help to improve the conditions of living that surround them."

5. **Teaching is Stimulation and Encouragement.** Teaching should fire the enthusiasm of the child. It is to encourage the child in the development of his natural desires to work and to be active.

6. **Teaching is Guidance.** Teaching is to guide the pupils to learn. the right things in the right manner and at the right time. Teaching is to

guide the students to do things in such a way that time, material and energy are not wasted.

7. **Teaching is Training the Emotions of the Child.** Ryburn observes, "It is also the encouraging and training of the emotional life. This is an aspect of teaching which is very commonly neglected, at least in practice. But our teaching will be only one-sided and distorted unless we take into account, the necessity for helping the child to develop a stable emotional life." Teaching is to develop the emotional life of the child by providing an atmosphere of love, affection and freedom. Teaching is to provide such activities as will sublimate their instinctive urges to action.

8. **Teaching is Both a Conscious and an Unconscious Process.** Teaching is both a conscious and an unconscious process and the most effective part of it is generally the part of which we are unconscious. The personal relationships between the teacher and the taught have a great bearing on the growth of the child.

9. **Teaching is a Means of Preparation.** Though preparation for future is not the only aspect of teaching, yet it is an important aspect. Teaching is to help the immature child to develop physically, intellectually, emotionally and spiritually to participate effectively in the life of the community.

10. **Teaching is Formal as well as Informal.** Formal teaching is deliberately planned, systematically organized and is always purposive. Teachers are just formal agents of teaching. School is not the only agency of teaching. Informal teaching is carried on by the parents, brothers and sisters at home, playmates, student community outside the classroom, etc. The few hours of the school are insufficient for the

full development of the child. Formal and informal teaching must co-operate, if good results are to be achieved. School should 'supplement' not 'supplant, the training imparted by the home and vice-versa.

11. **Teaching as a Skilled Occupation.** Every successful teacher is expected to know the general methods of teaching and instruction in creating suitable learning situations. He is also expected to be familiar with the general objectives of education.

12. **Teaching is an Art.** Art implies the intelligent action of human being through which it is possible to modify an ordinary course of events. Teaching is an art which can be improved through research.

13. **Teaching is a Form of Social Service.** The teaching profession is regarded to be a sort of social service and the teachers as servants of society in whose hands has been entrusted the task of shaping and developing the behavior and conduct of the young children for maintaining and improving the social patterns.

14. **Teaching as a Relationship.** Teaching is a relationship which is established between three focal points in education, the teacher, the child and the subject. Teaching is the process by which the teacher brings the child and the subject together. The teacher and the taught are active, the former in teaching and the latter in learning.

15. **Teaching is Both an Art and Science.** Silverman (1966) has expressed the nature of teaching in these words, "To be sure teaching like the practice of medicine is very much an art which is to say, it calls for exercise of talent and creativity. But like medicine, it is also a science, for it involves a repertoire of techniques, procedures and skills that can be systematically studied, described and improved. A good

teacher, like a good doctor, is one who adds creativity and inspiration to the basic repertoire".

Functions of Teaching

1. Creating learning situations.
2. Motivating the child to learn.
3. Arranging for conditions which assist in the growth of the child's mind and body.
4. Utilizing the initiative and play urges of the children to facilitate learning.
5. Turning the children into creative beings.
6. Inspiring children with the nobility of thoughts, feelings and actions.
7. Giving information and explaining it.
8. Diagnosing learning problems.
9. Making curricular material.
10. Evaluating, recording and reporting.

3 MARKS AND QUALITY OF GOOD TEACHING

Sri Aurobindo describes the marks of good teaching in these words, "The first principle is that nothing can be taught. The teacher is not an instructor or task master, he is a helper and guide. His business is to suggest and not to impose. He does not actually train the pupil's mind, he only shows him to perfect his instruments of knowledge and helps and encourages him in the process. He does not impart knowledge to him, he shows him how to acquire knowledge for himself. He does not call forth the knowledge that is within, he only shows him where it lies and it can be habituated to rise to surface. The distinction that reserves this principle for the teaching of adolescent and adult minds and denies application to the child, is a conservative and unintelligent doctrine. Child or man, girl or boy, there is only one sound principle of good teaching. Difference of age only

serves to diminish or increase the amount of help and guidance necessary, it does not change its nature."

John Dewey (1859-1952) states, "The more a teacher is aware of the past experiences of students, of their hopes, desires, chief interests, the better will he understand the forces at work that need to be directed and utilized for the formation of reflective habits." Further he writes, "The teacher is a guide and director, he steers the boat but the energy that propels it must come from those who are learning."

Albert Einstein (1879-1955) has observed, "It is the supreme art of the teacher to awaken joy in creative expression and knowledge.

Montaigne, a French philosopher (1533-1592) advises, "A tutor should not be continually thundering instruction into the ears of his pupil, as if he were pouring it through a funnel, but, after having, put the lid, like a young horse, on a trot before him, to observe his paces, and see what he is able to perform, should according to the extent of his capacity, induce him to taste, to distinguish, and to find out things for himself, sometimes opening the way, at other times leaving it for him to open."

Joseph Payne (English educator, 1808-1876) writes, "The teacher's part in the process of instruction is that of guide, director or superintendent of the operation by which the pupil teaches himself."

Swami Vivekananda (1863-1902) describes the role of the teacher in teaching as, "The true teacher is he who can immediately come down to the level of the student."

Following are the marks of good teaching:

1. **Good teaching recognizes individual differences** - Good teaching treats each child as unique. Good teaching recognizes that catering to

individual differences brings strength. It must be remembered that standardized procedures do not fit every pupil.

2. **Good teaching is causing to learn** - Good teaching enables the child to learn for himself. It is not stuffing the mind of the child with information. Good teaching is what we can make the child do for himself.

3. **Good teaching provides opportunities for activity** - The child is inherently active. Passiveness on the part of the child implies that he is not in good physical and mental health. A good teacher keeps the students active. He is aware of the fact that to keep the students disciplined, he must fill the time with work and he does so accordingly.

4. **Good teaching involves skill in guiding learning** - A good teacher motivates his teaching. He stimulates "through his personality and his activities the personalities and activities of the pupils." He creates such situations as lead to desired types of learners.

5. **Good teaching is kindly and sympathetic** - Good teaching must create an environment of acceptance, sympathy and understanding.

6. **Good teaching reduces the distance between the teacher and the taught** - Teachers should come out of their ivory tower and come as close with the students as possible.

7. **Good teaching is not tied to any method** - Methods, techniques and devices should be adopted to local situations and considered as servants and not masters.

8. **Good teaching is co-operative** - Good teaching is an active and living process. A good teacher seeks the co-operation of the learners.

9. **Good teaching is kindly and sympathetic** - A good teacher always creates a cordial atmosphere in the classroom. He always ensures his pupil' s emotional stability and security. He is loving, kind, affectionate and sympathetic to his pupils. He bears in mind this fact "love the child and he will love you, hate him and he will hate you." He avoids scolding and sarcasm.

10. **Good teaching involves careful planning** - Good teaching keeps in view that everything cannot be taught to children at every time. A good teacher carefully studies the mental make-up of the pupil he teaches, studies the individual differences of pupils and then prepares his subject-matter. An unplanned lesson often results in a failure and involves a waste of time, energy and money also.

11. **Good teaching is democratic** - A good teacher always respects the individuality of his pupils. He does not consider them to be inferior. He keeps democratic ideals, contents, methods and objectives in view.

12. **Good teaching provides desirable and selective information** - The good teacher does not try to teach all the available information that he gathers from books and experience. On the other hand, he makes a judicious selection and teaches all that is useful to live a good life as responsible member of the society.

13. **Good teaching helps the child to adjust himself to his environment** - Man has been struggling against natural forces since ages. He is expected either to adjust himself to these natural forces or to adjust the forces to himself. A good teacher helps the child in both directions.

14. **Good teaching is progressive** - A good teacher aims at improving his modes and techniques steadily. He also helps the child to make suitable progress in life.

15. **Good teaching leads to emotional stability** -There are very powerful inherited urges which always cry for expansion. A good teacher knows that unguided expression leads to wilderness, and therefore, helps in providing his pupils suitable opportunities which assist in training and sublimating their urges and emotions.

16. **Good teaching is both diagnostic and remedial** - A good teacher makes use of the various measuring instruments which have been provided by psychology and discovers the intelligence, aptitudes and interests of children and accordingly plans his work.

Quality Education and Quality Teaching

Challenge of Education - A Policy Perspective (1985), a publication of the Ministry of Education, and a forerunner of The National Policy on Education - NPE 1986, has something worth quoting, on quality of education. It states, "It is difficult to define quality, particularly with reference to educational processes. However, it could be stated that a quality conscious system would produce people who have the attributes of functional and social relevance, mental ability and physical dexterity, efficacy and reliability and above all, the confidence and the capability to communicate effectively and exercise initiative innovative and experiment with new situations. To these personal attributes one could add the dimensions of a value system conducive to harmony, integration and the welfare of the weak and disadvantaged."

Quality teaching also known as effective teaching is the chief instrument of quality education. It is essentially concerned with translating the

objectives of education into action and practice. It is concerned with how best to bring about pupil learning by various activities.

Quality teaching may be defined as the teacher's ability to stimulate students intellectually and move them emotionally to instill in them love for learning and develop suitable skills and attitudes.

Quality teaching is based on the premise All teachers should teach well and all students should learn well."

An understanding of the following facts would go a long way in quality teaching:

1. Effective teaching is a comprehensive concept. Several variables are involved in teaching.
2. All types of variables play their part in teacher-learning situation.
3. 'What' and 'how' of effective teaching should be carefully comprehended.
4. There are several models of teaching and each should be considered in the overall context of teaching.
5. All models are complimentary to each other.
6. A teacher should adopt an electric approach in the selection of a model.
7. Developing a personal model of teaching in consonance with the requirements of quality teaching should become the cherished goal of every teacher.
8. Skill in creating intellectual excitement has two components: The clarity of an instructor's communications and their positive emotional impact on students.
9. Quality teaching results from a teacher's skill at creating both intellectual excitement and positive rapport with students.
10. The development of good rapport is based on three qualities in the teacher's interaction with students: the teacher cares for student

progress, the teacher has consideration for students as learners and the teacher respects students as individuals.

11. The three elements involved in teaching competence which contribute to teacher's authority and prestige are: Mastery over the subject, interest in the subject and effective learning situations and experiences.

12. Quality teaching presupposes an understanding feeling heart and a lofty personality

13. In quality teaching the environment is of mutual cooperation and of purposefulness. A play-way spirit is the chief characteristic of the work.

4 'A' TO 'Z' OF EFFECTIVE TEACHING

'A' is for alertness on the part of the teacher to the multifarious needs of the learners. Alertness is very helpful in taking appropriate decisions and timely corrective measures.

'A' is also for adaptability in handling several situations.

'B' is for businesslike attitude. It is to be ensured that every learner in the class remains busy in realizing the goals set.

'B' is for balanced behavior.

'C' stands for cooperative teaching-learning. The learners must be made active partners.

'C' is for clarity of purpose. The teacher and the learners must be clear about the goals for the achievement of which they are working.

'C' is for clarity of the subject-matter taught. A teacher must make all possible efforts to make his lesson clear. Difficulties of the learners must be appreciated and clarified.

'D' stands for democratic classroom environment.

'D' is for discovery. Children should be guided to find out new facts, ideas

and principles. It helps children in becoming independent and resourceful learners.

'D' stands for democratic discipline.

'E' stands for expectancies. Each learner should be expected to learn. No learner should be considered without any potential.

'E' stands for enthusiasm. The teacher himself must demonstrate enthusiasm for his work.

E' stands for appropriate etiquettes.

'F' is for feedback. Feedback helps the teacher and the learners to take timely corrective measures for the completion of the task.

'F' stands for faith of the teacher in himself.

'G' is for goal-setting. Appropriate goals should be set for the learners. They should also be made clear about the suitability of goals. Efforts may be made 'to associate the learners with the setting of goals.

'H' is for hard-work on the part of the students as well as teachers.

'H' is for humor. Humor on the part of the teacher releases fatigue and tension.

'H' stands for human touch.

‘I’ stands for involvement of all the learners in classroom activities and experiences.

'I' stands for impartial attitude.

'I' stands for inspirational teaching-learning.

'J' stands for just attitude.

'J' stands for judicious rewards and punishments.

'K' stands for knowing children's abilities, aptitudes and interests.

'K' stands for the knowledge of the sub-matter.

'L' stands for linking present, past and future knowledge.

'L' stands for leadership qualities.

‘M' stands for motivation.

'M' stands for management of the class.

'N' stands for needs of the learners and their satisfaction.

'O' stands for open-mindedness.

'O' stands for out of class activities.

‘O’ stands for objectivity in approach.

'P' stands for praise. Verbal and non-verbal praise of children can motivate them to hard-work.

'P' stands for personal contact with every learner.

‘Q' is for quiz. From time to time, quiz competitions may be arranged in the class.

'Q' stands for quality teaching.

'Q' stands for question-answers.

'R' stands for review of the lesson.

'R' stands for relationships.

'R' stands for resourcefulness.

‘S’ stands for success experience. Success motivates the learner to achieve more.

'S' stands for scientific temper.

'S' stands for self-analysis and self-control.

'T' stands for technology of teaching.

‘T' stands for tutoring which involves removing difficulties individually or in small groups.

'U' stands for undivided attention to teaching.

'U' stands for unbiased attitude to the treatment of controversial issues.

'V' stands for visual aids.

'V' stands for variety of experiences.

'V' stands for voice-modulated.

'V' stands for variation in the presentation.

'W' stands for welcoming attitude.

'W' stands for warmth towards students.

'X' stands for X-ray of the teaching process. It implies finding out of the difficulties and potentials of the students.

'Y' stands for yardstick, i.e., same standard basis of making a judgment on the performance of the students.

'Y' stands for you, implying that you (student) are the most important element in the teaching-learning process.

'Y' stands for yearning for improvement.

'Z' stands for zeal and zest for work.

'Z' stands for zenith or excellence.

5 SEVEN WONDERS AND CHALLENGES OF TEACHING

Esther J. Swenson in *The Teacher's Letter* (1952) states that each of the following seven wonders brings a new challenge to the classroom teacher:

1. **First wonder.** How much children already know before they come to school. They bring with them rich resources of knowledge, skill and understandings - mostly self-learned.

   First challenge. How much do I know of these rich resources? How far do I go in searching them out? How do I use what I find?

2. **Second wonder.** Children's eagerness to learn. It is natural for children to inquire, to discover. It is unnatural for them to be passive, disinterested.

Second challenge. How do I use this eagerness to learn? In what direction should it be channeled? Am I 'feeding it or am killing it?

3. **Third wonder.** The ever-ending process of learning. Every hour of the day, no matter where he is, with whomever or whatever he works, the child learns.

   Third challenge. Is he learning what is best for him, now and later? Am I setting the stage for constructive learnings?

4. **Fourth wonder.** The infinite variety of abilities, personalities, needs, and interests of pupils. He who says, "I know children" has not taken time to study the marvels of their growth.

   Fourth challenge. Do I know as much as I should about each child's abilities, personalities, needs, interests? How can I learn more? Do I accept differences or rebel against them?

5. **Fifth wonder.** The conformity of learning. Simultaneously, children learn subject matters, traits of personality, habits of working, attitudes and appreciations - many of them permanently.

Fifth challenge. Do I push so hard toward a single goal that I push the

children away from another of equal importance? Do I leave these

"marginal learnings" to chance?

6. **Sixth wonder.** The faith, respect, loyalty and tolerance of children. When a teacher treats them well - sometimes even when he does not they will respond with respect and understanding.

   Sixth challenge. Do I have an equal faith in them and in their motives? Am I as loyal to them and their welfare? Do I treat them with respect and understanding?

7. **Seventh wonder.** The ability of children to teach. Each child learns from the other, and even the teacher can learn much from children.

Seventh challenge. Do I use my opportunities to learn from children?

Do I listen, literally and figuratively, to the lessons they can teach?

6 ANALYSIS OF THE CONCEPT OF TEACHING

Several attempts have been made to analyze activities involved in teaching with a view to understand it scientifically, design teaching

materials and methods for realizing the specific objectives efficiently, and to evaluate and modify it in the light of the feedback.

Flenders, Ned. S. (1959) of the University of Minnesota was the first educator to categorize all the sets of verbal behaviors (teaching activities) of a teacher in the classroom while interacting with students. He classified these activities into three categories:

1. Teacher Talk. 2. Pupil Talk 3. Silence/confusion.

1. Teacher talk was further categorized as under:

(1) Indirect influence which includes (a) Accepts feelings (b) Praises or encourages. (c) Accepts or uses pupil ideas (d) Asks questions.

(2) Direct influence which includes (a) Lecturing (b) Giving directions (c) Criticizing or justifying.

2. Pupil talk which included (a) Pupil talk response (b) Pupil talk initiation

3. Silence or confusion.

Komesar, N.P. (1966) tried to analyze teaching into various specific activities like introducing, demonstrating, contrasting, explaining, proving, justifying, explaining, defining, appraising, amplifying, rating, interpreting, questioning, elaborating, identifying, conjecturing, confirming etc.

Gage, N.L. (1968) attempted to analyze teaching in terms of technical skills. According to him, "Teaching skills are specific instructional techniques 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 combinations in the continuous flow of the teacher's performance."

Clarks, S.C.T. (1970) analyzed teaching in terms of some specific activities that are designed and performed to produce change in student's behavior. Those activities may be of cognitive, affective or conative nature and belonged to different levels.

Brown, B.B. (1968) analyses teaching by considering it as a many sided activity which includes several activities like questioning, giving information and listening, etc.

Passi, B.K. (1976) states 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, particularly in combination, facilitate the achievement of objectives in terms of pupil growth.

Jangira, N.K. and *Singh Ajit* (1982) present the analysis of teaching as, "Teaching can be analyzed in terms of teacher behavior at least at three levels viz, component teaching skills, competent teaching behaviors and atomistic teaching behaviors."

7 MODERN AND TRADITIONAL TEACHING TECHNOLOGY

Concept and Meaning of Teaching Technology

Teaching technology involves the mechanism of instructional process in the classroom situations, levels of teaching, theories of teaching, principal teaching operations and establishing relations between theories and teaching operations.

Teaching technology as a concept can be classified into four well defined components. These components are: (i) Manpower, (ii) Methods, (iii) Materials, and (iv) Media.

As a method, it implies making use of a few devices such as programmed learning, team teaching, micro-teaching, personalized system of instruction, etc.

As materials, it comprises instructional materials, comprising programmed textbooks, manuals, guides, text and other written/ print materials, which expose to the learner the contents of these sources of materials.

As media, it implies audio or visual or both audio-visual media such as radio, tape recorders, films, educational television as teaching aids to supplement effective teaching and to promote better learning.

Whatever be the method, material or media, it requires manpower to operate/utilize in the teaching learning environment. Thus, the four M's constitute a whole sequence of chains of inputs/facilities in teaching technology.

Modern Teaching Technology	**Traditional Teaching Technology**
1. Based on modern scientific principles and discoveries.	1. Based on old techniques of teaching.
2. Emphasizes the development of critical thinking power of the leaner.	2. Stresses memorization.
3. Uses team teaching.	3. Teaching by individual teacher.
4. Stresses group activities.	4. Listening to lectures of teachers.

5. Uses individualized techniques of instruction.	5. It is a technique of mass teaching.
6. It defines objectives of teaching clearly.	6. Objectives are usually vague.
7. Teaching material is thoroughly prepared.	7. Little preparation is done.
8. Time required to master the material may vary across students.	8. Time for completion is same for all students.
9. The teacher's role is not to teach in the sense of subject matter presentation but to manage the instructional environment, diagnose students, direct the use of available resources.	9. The teacher is primarily responsible for all subject matter preparation and also must prepare and administer tests and mange the 'house-keeping' details.
10. Materials used in the class-room include new media, measurement techniques and they are coordinated.	10. General guidelines are given by the administrator.
11. Objectives of instruction are subject to review	11. Generally there is very little review
12. The purpose of student evaluation (tests and other measures) is to help the student by providing feedback on performance, diagnosis of strengths and weakness and providing information for making decisions such as extra help, environment program, etc.	12. While tests are supposed to be used for diagnostic purposes, they are generally used only to establish grades.

13. It is, by and large, student-centered.	13. It is, by and large, teacher-centered.
14. Classroom environment reflects freedom and spontaneity.	14. Classroom environment reflects authoritative attitude of the teacher.

REVIEW PROBLEMS AND QUESTIONS

1. “To know where the pupils are and whom they should try to be are the first two essentials of teaching." Explain this statement.
2. What are the most essential things that a teacher should know to make his teaching effective?

3. "Teaching is a tripolar process or relationship." Elucidate this.

4. "Good teaching is giving information." Do you agree with this view?

   Give arguments in support of your answer.

5. Explain the marks of good teaching.

6. What is quality teaching? On what factors does it depend?

7. State the factors which determine effective teaching.

8. List any ten activities involved in classroom teaching.

9. Explain the 4M's of teaching technology. How does modern teaching

   technology differ from the traditional one?

Chapter Two

Anatomy or Structure of Teaching

1 STRUCTURE OF TEACHING

Structure of teaching consists of three variables which operate in the process of teaching and create learning conditions or situations. These are classified as under:

1. Teacher as an independent variable.

2. Students as dependent variables.

3. Content and the strategy of presentation as intervening variables.

Teacher as Independent Variable. The teacher plans the role of an independent variable. Students are dependent on him in the teaching process. The teacher does the planning, organizing, leading and controlling of teaching for bringing about behavioral changes in the students. He is free to perform various activities for providing learning experiences to students.

Student as the Dependent Variable. The student is required to act according to the planning and organization of the teacher. Teaching activities of the teacher influence the learning of the students.

Content and the Strategy of Presentation as Intervening Variables. The intervening variables lead to interaction between the teachers and the students. The content determines the mode of presentation telling, showing and doing, etc.

Functions of Variables

The independent and dependent variables perform three functions:

(i) Diagnostic function

(ii) Prescriptive function

(iii) Evaluative function.

Diagnostic function. The initial task in bringing about desirable changes in the behavior of the students is to have a proper diagnosis of the existing situation. Accordingly a teacher has to perform the following diagnostic functions:

1. Diagnosing the entering behavior of the students in terms of cognitive, conative and affective abilities.
2. Formulating specific educational objective, the type and quality of behavioral changes to be introduced in the students in the light of the entering behavior and environmental conditions.
3. Analyzing the content, instructional material and environmental facilities available for carrying out the task.
4. Diagnosing his own capabilities and potentialities and bringing about desirable changes in his own behavior for achieving success in his mission of moulding the behavior of the students under his charge.

Like the teacher, a student has also to perform certain diagnostic functions as listed below:

1. Diagnosing strength and weakness of his entering behavior.
2. Assessing himself in terms of the tools of learning like power of expression, ability to think and analyze, psychomotor skills, and

emotional behavior, etc.

3. Making efforts to understand the behavior of the teacher, the type of teaching methods and strategies, the nature of the content and instructional material for the purpose of initiation on his part. In the process of initiation, both the teacher and the student diagnose for initiation and response.

Prescriptive Function. Prescriptive function is based on the diagnosis for achieving the stipulated objectives. In the prescriptive function, teacher is more active. He has to work for the meaningful interaction. Cooperation of the student is also very essential in carrying out the prescriptive function by the teacher. The prescriptive function involves:

1. Selective appropriate contents and organizing them into proper sequence.
2. Selecting proper teaching methods, media and strategies and feedback devices in view of the individual differences of the students.
3. Seeking desired cooperation from the students for a purposeful interaction.

Evaluative Function. Evaluative function is concerned with the task of finding out the progress and outcome of the teaching process. It is done in order to test the diagnostic and prescriptive functions of teaching. Evaluation is very important from the teacher as well as the point of view of the student. Evaluation is conducted with the aid of several measures like tests, inventories, observations, interviewing, rating scales, etc. If the results are favorable, it is taken for granted that the prescriptions were correct. In case the results are contrary, necessary changes are made in the teaching learning process to get the desired results. Evaluation serves

as a feedback. Teaching strategies are planned in the light of the feedback obtained from evaluation.

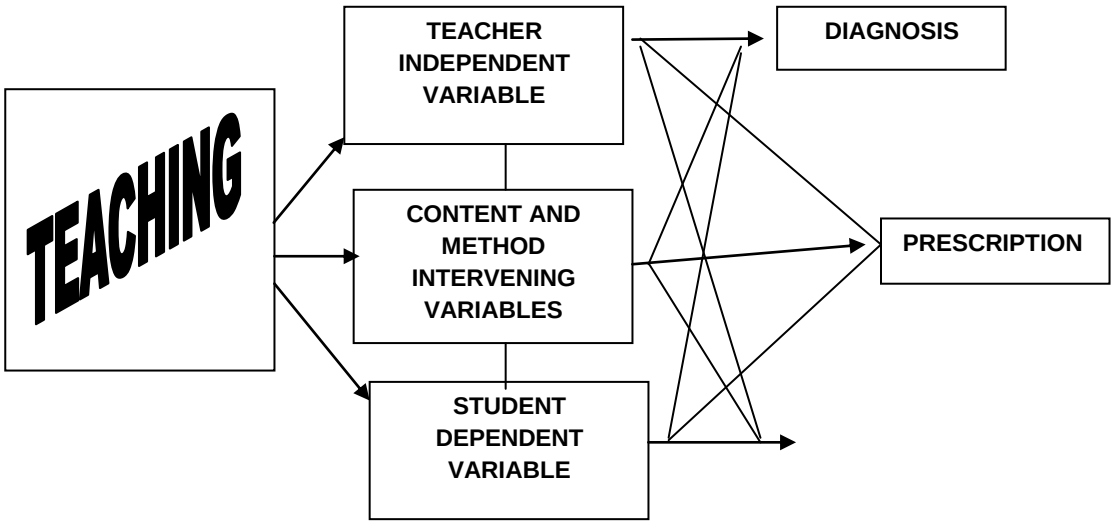
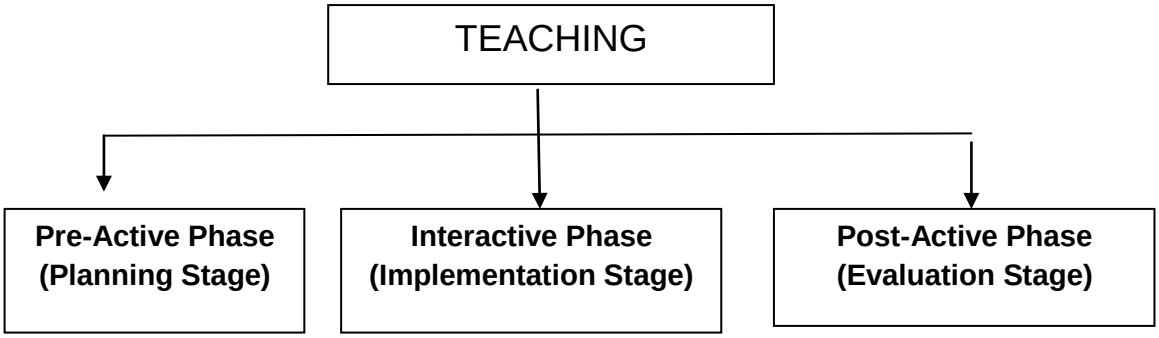


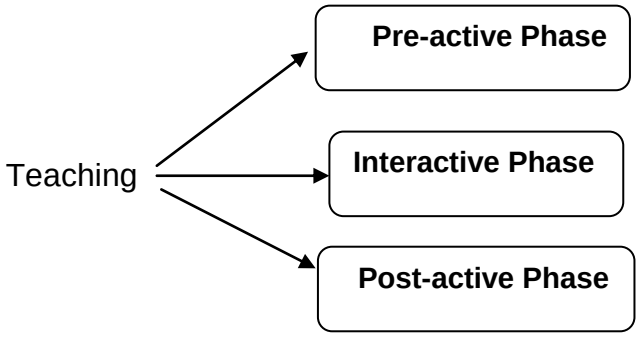
Fig. 3.1. Structure of teaching

2 PHASES AND STAGES OF TEACHING

Teaching is a complex task. For performing this task, a systematic planning is needed. Teaching is to be considered in terms of various steps and the different steps constituting the process are called the phases of teaching. Jackson thinks that if we are to obtain a complete description of the teaching activity, we must consider what the teacher does before and after his regular teaching in the class. Jackson divides the teaching act into three phases of teaching as shown below:



Phases of teaching can also be explained as under:



1. Pre-active Stage. Before actual classroom teaching or what Jackson calls "calm" part of teaching, a teacher has to perform many tasks. These tasks include such as preparing lesson plans, arranging furniture and equipment within the classroom, manning papers, studying test reports, reading sections of a textbook and thinking about the aberrant behavior of a particular student. These activities are very crucial to teacher's performance during regular teaching session.

Pre-active behavior is, more or less, deliberative. The teacher at this stage hypothesizes about the possible outcome of his action. As the teacher decides what textbooks to use or how to group the children for reading or whether to notify students 's parents of their poor performance, his behavior is at least analyzable.

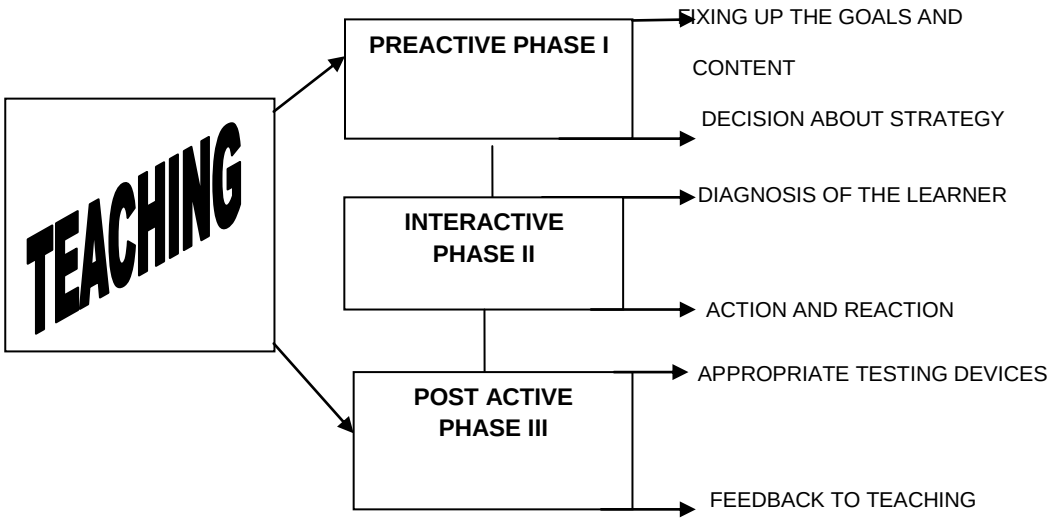


Fig.3.2. Phase of teaching

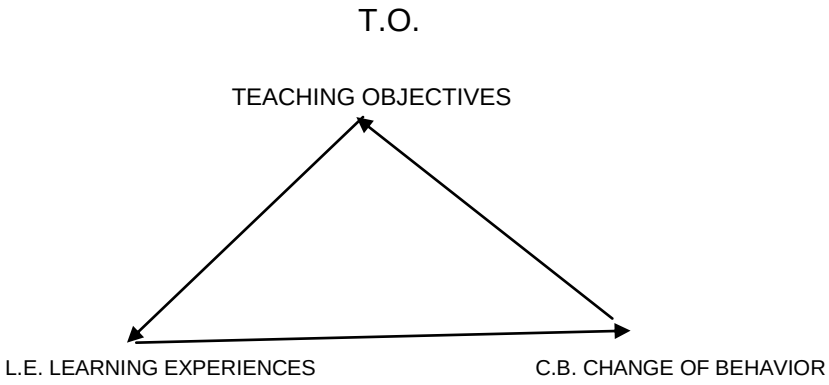


Fig. 3.3. Teaching operations at pre-active stage

Following operations or sub-stages are involved:

(1) Forming or fixing up goals.

(2) Taking decisions about the content.

(3) Managing or sequencing appropriate means and ways of presentation.

(4) Deciding about appropriate strategies and tactics of teaching.

(5) Developing teaching strategies for the specific subject matter.

2. Inter-active Stage. This is actual classroom teaching. At this stage, the teacher uses a number of strategies for achieving the goals already set. In the inter-active setting, the behavior of the teacher is more or less spontaneous. Research suggests that things happen quickly during the teaching session. For example, the elementary teacher may change the focus of his concern as many as 1,000 times daily. Amid all this hustle and bustle the teacher often has little time to think.

Many teachers try to devote sometime alone with individual students but the teacher-student dialogue is usually public rather than private. When a teacher is alone with a student, he is not faced with the problem of control and management that frequently absorbs a major portion of his energies in a group setting. There is a greater sense of physical and psychological intimacy between the teacher and the student during individual sessions than when the teacher is responding to the class as a group.

The task of keeping pupils involved may entail explanation, demonstration, definition, and other logical operations that have come to be thought of as the heart of teaching.

Operations at the Inter-active Stage. The inter-active stage of teaching involves the following:

(i) Perceiving the size of the class by the teacher to identify students.

(ii) Diagnosing the achievements of the learners.

(iii) Action or Achievement (Initiation or Response). This involves the following operations:

In the above paradigm:

(a) Selection of stimuli.

(b) Presentation of the stimuli.

(c) Feedback of reinforcement.

(d) Development of strategies of teaching.

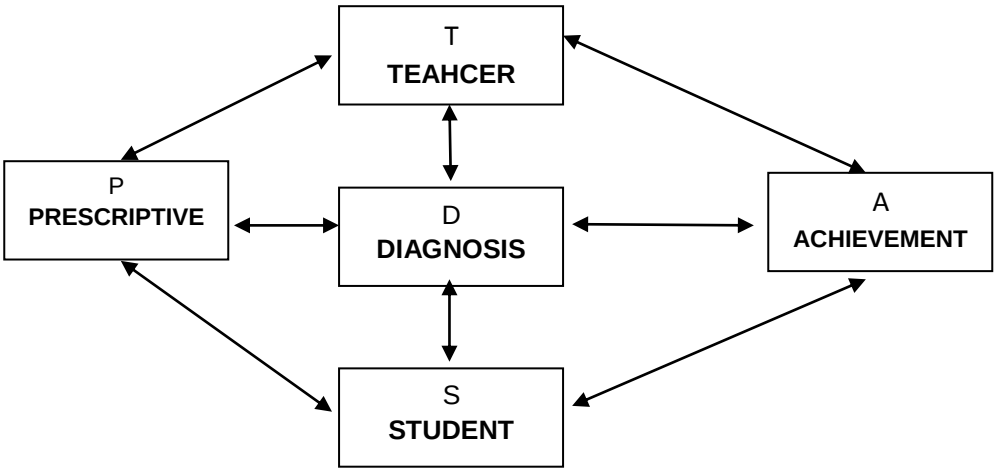


Fig. 3.4. Teaching operations at inter-active stage

3. Post-Active Stage. The post-active stage concerning evaluation provides necessary feedback to the teacher and the students in bringing desirable improvement in their performance. It is related with both teaching and learning.

The teacher analyses as to what extent the students have grasped the material presented to them. It is in fact the assessment of the interactive process. It helps the teacher to teach things better in future. It also helps the students to learn things better. It enables the teacher to decide whether he should proceed with the new contents or reteach what has already been taught. In short, following operations are involved at the post-active stage of teaching:

1. Assessing the suitability of the objectives determined.

2. Deciding regarding re-teaching the content or further taking up the contents.
3. Assessing the suitability of the instructional material and aids.
4. Assessing the impact of the classroom environment and effecting desired changes.

It may be stressed that all the above mentioned three phases of teaching are closely inter-related. All those stages may be depicted by the following paradigm.

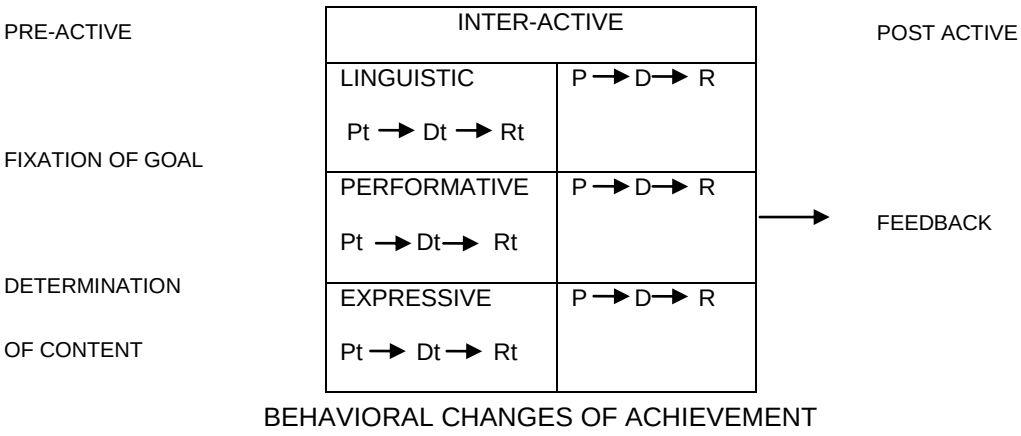


Fig. 3.5. Three stages in paradigm for teaching act

1. Pt stands for the teacher's perception of the pupil's behavior.
2. Dt is the teacher's diagnosis of the pupil's state of interest, readiness, knowledge, etc., made by inference from the behavior of the pupil
3. Rt is the action taken by the teacher in the light of his diagnosis.
4. Pp is the pupil's perception of the teacher's behavior.
5. Dp is the pupil's diagnosis of teacher's state of interest what he is saying and is inferred from the teacher's behavior.

6. Rp is the reaction of the pupil to the action of the teacher. Each unit marked off by the double vertical line is an example of a teaching unit.

Each unit consists of a teacher-pupil inter-action. There are two sub-units within the teaching cycle which are divided by single vertical line.

The sub-unit (Pt → Dt → Rt) is referred to as an act of teaching. The sub-unit (Pp→ Dp → Rp) is what we call the act of learning or taking instruction. The act of teaching and the act of taking instruction are reciprocating acts and when performed under appropriate conditions they result in behavioral changes or achievement.

Teaching according to this paradigm implies that someone gives instructions and someone takes it.

REVIEW PROBLEMS AND QUESTIONS

1.Describe briefly the structure of teaching.

2.Distinguish diagnostic functions of teaching from its prescriptive function.

3.State the teaching operations at various stages.

Chapter Three

Principles and Maxims of Teaching

1 CHILD-CENTERED APPROACH TO TEACHING

Meaning of Child Centered Education

A Dictionary of Education (1981) by Derek Rowntree considers child-centered approach/education/teaching as, "Rather woolly slogan, but its main point is made by teacher who claims ‘I teach children, not subjects’. Implies care for the ‘whole' child - his Personality, Needs and Learning Style and not just for his or her academic process."

The Concise Dictionary of Education (1982) by G.R. Hawes and L.S. Hawes defines child-centered education as, "An educational theory or system that emphasizes the pupil and his or her individual characteristics as central in conducting instruction instead of focusing on subject matter, external authority, and educational requirements. Curriculum is constructed according to the pupil's interests and needs."

In their book *A Critical Dictionary of Educational Concepts* (1986) Robin Barrow and Geoffrey Mitburn observe, "The essence of child-centered education is, self-activity, that the child should be at the center of concern. ...Explicitly or implicitly, child-centered educationalists tend towards a view of *Education* being a process of leading out rather of imparting knowledge."

Child-centered education stresses the need for taking care of the child, its growth and development. It requires 'individualization’ of approach, so that one must study each child carefully, keep observations over a period of

time, study the growth and development in sensory motor area, intellectual area, emotional area, social area, language area and so on.

Key Concepts of Child Centered Education

Aim. The aim is development of the total personality of the child. *Program.* Program is to be activity-based with different teaching strategies.

Pace of Learning. It is to be based on children's needs and abilities. *Teaching-Learning.* Teacher's role is that of a facilitator in learning and development.

Discipline. It is to be achieved through the maintenance of positive human relationships between teachers and pupils.

Need for Child-Centered Approach and Its Implications

1. The child is the agent in his own learning. Out of the three components of a learning situation; the child, the teacher and the environment, pride of place is to be given to the child. He must become the most important agent in his learning. It means that curriculum must be thought of in terms of activities and experiences which appeal most to the child.

2. Children learn best when they are active. When we consider the child an agent in his own learning, we must provide for him to be active. The medium of learning is the activities undertaken by the child. Learning takes place through a continuous process of interaction between the learner and his environment.

3. Knowledge or information is not the goal. Self-realization is the goal. Personality and character are more important than the subject matter. To possess all the knowledge of the world and lose one's own self is an awful fate in education.

4. Child-centered approach is more psychological than logical. It emphasizes the process rather than the product.

5. Child-centered approach gives freedom to the child under the creative and sympathetic direction of the teacher.

6. One single exposure to an experience does not affect all the necessary co-ordination of the physical and mental faculties of a child to preserve the net value of exposure. Hence there has to be repetitive exercises and drills to give a certain knowledge and the efficiency and tenacity of a skill and value. It is here the child becomes a trainee and the teacher becomes a trainer or the child an educand and the teacher as an educator.

7. A child is a unique being and can function only by remaining in the world in which it has a specific role to play. The teacher's role is to help the child to conform to its unique role, both in its spirit, habitual values, choices and consistent behavior patterns.

8. The child's sense of wonder and astonishment and his natural curiosity lead to a learning process which should be encouraged by teachers.

Limitations of Child Centered Education

Child-centered education has a few limitations which must be taken care of by the teachers. Too much freedom is likely to engender egocentricism in children. Children may grow to be unwilling to accept reasonable authority. If all the times and at all places, likes and dislikes, preferences, whims and interests of children are elevated above the mature judgments of parents and teacher, it may result in undesirable outcomes. Adams, therefore, wanted that both the children and their teachers should be on the same footing of importance.

Pragmatically speaking, learning cannot be child-centered always in absolute terms. Child-centered education implies that each child may have a separate learning activity besides a few group activities. Perhaps no nation can afford to spend so much money, resources and time on child centered education. Child-centered learning is confined to the learned discourses of educational thinkers. There are so many children under the charge of a teacher that it is rather impossible to attend to the specific needs of children individually.

Corrective Measures

Of course emphasis on child-centered education tends to free the child from the tyranny of the traditional approach to education which meant ‘chalk and talk', ‘bookish knowledge' and the 'supremacy of the rod'. Implicit in all the positions of child-centered education is that the teacher must be prepared to give initiative to the learner in the educational encounter. The teacher as well as the child must remain active in the teaching-learning activity. The teachers must take the initiative and find out the limitations of the learner's own spontaneous and undirected activity. The teacher has an obligation to assess the limitations of child's choice of educational activity. The teacher's legitimate role in encouraging self-disciplinary function cannot be over-emphasized.

The role of the teacher in child-centered education may be summed up as under:

1. Motivating children.
2. Developing trust and confidence in children's capacity to learn.
3. Becoming as a resource for creating meaningful learning experiences.
4. Accepting the individual and the group.
5. Participating as a member of the group in guiding learning.

6. Becoming sensitive to the child's needs and interacting in a way that would provide a sense of feeling and security.
7. Recognizing and reinforcing the individual contribution.

Principles of Teaching

The educators and philosophers have emphasized certain principles of teaching which the teachers are expected to bear in mind for making their teaching effective, efficient and inspirational. Sometimes these principles are classified as psychological and general principles. This classification is however very arbitrary and both types overlap.

2 PSYCHOLOGICAL PRINCIPLES OF TEACHING

1. Principle of activity or learning by doing. Children are active by nature and any process or method that is not based upon the student activity is not in accord with the progressive educational theories. Rousseau considers the child as a "hero" in the drama of education and as such he must be allowed to play the dominant role. So the first principle is to keep the class active.

Children have been endowed by nature with tremendous vitality. In the words of T.S. Avinashilingam, - "The great Ganga of life flows majestically on. But if anyone tries to retain and dam it, the dam will break unless attempts are simultaneously made to divert it into other channels. The waters can only be diverted, but cannot be dammed indefinitely. If anyone tried to do the impossible, it would at his peril, for the dam will break, sooner or later. So is the nature of children. The great vitality of our children cannot be permanently restrained without providing a positive purpose. Thus providing for various types of activities which will interest the children and give them opportunities for observation and the use of their hands is to offer them the fulfilment and satisfaction which nothing else confers."

Activity does not mean mere physical activity. If a pupil is to develop all sides of his personality, then it is necessary for him to be active in all ways, to exercise all the powers he has.

2. Principle of play-way. This principle is closely related to the principle of learning by doing. According to Froebel, play is the chief activity of childhood. It gives joy, freedom, contentment and inner and outer peace. It holds the source of all that is good. But "without rational conscious guidance," says Froebel, "childish activity degenerates into aimless play instead of preparing for those tasks of life for which it is designed."

Play is a natural activity. Just as a poet cannot refrain himself from writing a poem, a musician from singing, a dancer from dancing and an actor from acting, so too a child cannot refrain himself from playing. Play comes from within. It is a voluntary activity and is the manifestation of creative urge. It gives joy, freedom, contentment, inner rest and peace with the world. This implies that a spirit of play-way should prevail in classroom work.

3. Principle of motivation. The teacher will do his best to motivate all children in the lesson. Motivation arouses the interest of children and once they become interested, they are willing to concentrate and work. Motivation is developed by the following techniques:

(i) Utilizing the instinctive tendencies of the children in an effective manner.

(ii) Satisfying the curiosity of children.

(iii) Utilizing all the senses of children.

(iv) Relating closely body and mind.

(v) Linking teaching-learning with life.

4. Principle of self-education. Best teaching is enabling the child learn by his own efforts. Teachers must fire the imagination of their students. Children, we are told, must be left free to express themselves, for the best education is self-education. Teachers, we are told, must stand aside. They must talk less, explain less and direct less. Adamson states "The whole business is between the individual and his world's and the teacher is outside it, external to it. He may facilitate it, turning his attention to one or other member of the wedded pair. He may approach the individual and his avenues of approach will be one or other of the instincts or emotional dispositions which are the prime movers of mental life. He may try fear, pugnacity, curiosity, or sympathy, or a combination of them, to quickness the current which seems to him sluggish or he may approach the fact or truth, whichever of the three words it belongs to, and see whether anything can be done by lighting it up, or lining in main features and blotting out detail to facilitate adjustment. But whatever he tries, subject or object or both together, he remains outside the process, a spectator, a manipulator, perhaps a disturber, he is never in it and of it. Within that mysterious synthetic activity through which the individual is at once appropriating and contributing to his environment, forming and being formed by it... the teacher has neither place nor part." The statement implies that the essential activity in teaching is not the adjustment of child to teacher but is to enable him to adjust himself to the environment and also to change the environment to adjust himself. Teaching must enable the child to work independently and without the teacher at a later state.

Dr. A.G. Hughes and Dr. E.H. Hughes remark, "It must be emphasized, however, that teachers are not as superfluous as some enthusiasts suggest, teaching is not the baneful evil it is sometimes represented to be. It is true that children are by nature curious, assertive and creative, but they are also submissive, imitative and ready to appeal for help. It follows,

therefore, that we are not necessarily working contrary to child nature when we teach. We must, however, know when to teach and when to stand aside, when to explain and when to leave children to make discoveries, when to demonstrate and when to leave children free to experiment, when to require children to listen and when to give them scope for free expression." The two important aspects of teaching are, stimulation and inspiration. The teachers must fire the enthusiasm of their pupils. They must encourage them in the development of their natural desire to work and to be active and guide these desires into worthwhile channels. The late President Eliot of Harvard once said, "The supreme value of a teacher lies not in the regular performance of routine duties, but in his power to lead and inspire his students through the influence of his own mental and moral personality and examples."

5. Principle of individual differences. No two children are alike. Teaching to be effective must cater to individual differences of children.

6. Principle of goal setting. A definite goal must be set before each child according to the standard expected of him. Short-term or immediate goals should be set before small children and distant goals for older ones. It must be remembered that goals should be very clear and definite and the children must understand these goals.

7. Principle of stimulation. Burton has said, teaching is the stimulation, guidance, direction and encouragement of learning. Ryburn emphasizes this aspect in these words, "the guidance of the teacher is mainly a matter of giving the right kind of stimulus to help him to learn the right things in the right way."

8. Principle of association. Thorndike points out that things we want to go together should be put together. Many different things or ideas which we

want to go together should be associated with each other. They should form a part of one process. Then it becomes easier to make the students understand their relationship.

9. Principle of readiness. This principle is indicative of learner's state of mind to participate in the teaching-learning process. Readiness is preparation for action. A teacher must be alive to this principle.

10. Principle of effect. This principle states that a response is strengthened if it is followed by pleasure and weakened if followed by displeasure.

11. Principle of exercise or repetition. According to it, the more a stimulus induced response is repeated, the longer it will be retained. Other things being equal, exercise strengthens the bond between situation and response. Conversely a bond is weakened through failure to exercise it. Thus the principle has two sub-parts:

(i) Principle of use and (ii) Principle of disuse

12. Principle of change and rest. Psychological experiments in learning have demonstrated that fatigue, lack of attention and monotony can be overcome by making appropriate provision for change, rest and recreation. While framing the time table it is kept in view that subjects and activities are provided in such a way that the students do not experience boredom and fatigue. Usually two consecutive periods of a subject are, not provided in a class.

13. Principle of feedback and reinforcement. Learning theories point out that the immediate knowledge of the results and positive reinforcers in the form of praise, grade, certificates, token money and other incentives can contribute to make the task of learning joyable.

14. Principle of training of senses. Senses are said to be the gateways of knowledge. The power of observation, discrimination, identification, generalization and application can only be appropriately developed through the effective functioning of senses.

15. Principle of group dynamics. Under the influence of group behavior, appropriate changes in the behavior of the members of the group can take place. Individuals composing the group think and feel as the group feels, do as the group does. A suitable climate for group dynamics is to be created in the classroom environment.

16. Principle of creativity. Opportunities should be provided to the students to explore things and events and find cause-effect relationships. This principle envisages that every student possesses some element of creativity which must be explored and developed to the maximum extent.

17. Principle of correlation. Gandhiji was of the firm view that correlation should be the basis of all work. He advocated that correlation of the learning task should be established with the craft, physical and social environment.

3 GENERAL PRINCIPLES OF TEACHING

Successful teaching necessitates that the teacher comes down to the level of the pupils and at the same time assists them in rising above it. To a great extent, the principles of teaching to be followed depend upon the age of the pupils, the subjects and topic of the lesson. However, there are certain general principles which should underline the teaching of all subjects. As already stated, there is no clear-cut dividing line between psychological and general principles of teaching.

1. Principle of definite goals or objectives. Destination or goals of teaching-learning must be clear to the teachers and students. Goals and objectives keep the teachers and students on the track. Definiteness of goals helps in planning, executing and evaluating every step, phase or act of the teaching-learning process.

2. Principle of child centeredness. The entire teaching endeavor is for the child. Therefore, it is essential that teaching strategies should cater to the aptitude, interest and abilities of the students. In the drama of education, child should be assigned the role of 'hero'.

3. Principle of individual differences. (Already discussed)

4. Principle of linking with life. Teaching can never be performed in a vacuum. It is always in a social context. In the teaching of all the school subjects, examples from everyday life should be given their due place.

5. Principle of correlation. Knowledge is one 'whole.' Various ideas and events are interrelated. There exist links among various subjects. Correlation of the present events can be made with the past. Similarly future can be visualized on the basis of the present happenings or state of affairs. Gandhiji propounded his system of basic education with correlation as its cornerstone-correlation with the craft, correlation with the physical environment and correlation with social environment.

6. Principle of active involvement and participation of students. Teaching-learning is a two-way traffic. Traditional teaching was almost teacher-centered. There was very little scope for the involvement of the students. The teacher taught and the students listened to him passively. The new teaching emphasizes that the students must actively participate in all the stages and steps of teaching-learning.

7. Principle of cooperation. Classroom environment becomes lively when the teacher and the taught work in unison, helping each other in carrying out the task of teaching and learning. All the participants have the same common interest. Naturally, they must cooperate with teacher.

8. Principle of remedial teaching. All students do not learn with the same speed and accomplishment. Some lag behind and need extra coaching. The teacher has to find out where the fault lies and think for positive measures. He may have to arrange for remedial or compensatory or extra teaching for any particular group of students for removing their specific difficulties.

9. Principle of creating conducive environment. Physical as well as social environment of the classroom plays a vital role in motivating the learners. Arrangement of light and furniture, etc. should be properly attended to. There should be proper discipline and order. The teacher should be sympathetic but firm.

10. Principle of planning. Planning determines the quality or success of any task. Planning in teaching involves the preparation of the lesson notes, provision of teaching aids, and working out strategies to be adopted in the delivery of the lesson.

11. Principle of effective strategies. Teaching process to be effective must adopt proper means, strategies and tactics. A teaching strategy is a generalized plan for a lesson which includes structure, desired learning behavior in terms of goals of instruction and an outline of planned tactics necessary to implement the strategy.

12. Principle of flexibility. Strategies should serve as guides for effective teaching. Strategies may have to be changed if the classroom situations, so warrant. Teaching is a complex task and a live phenomenon. The

possibilities of alternation in planned strategies cannot be ruled out at the execution stage. A teacher must be quite imaginative and resourceful for adapting himself and his teaching to the requirements of the teaching-learning environment.

13. Principle of variety. A variety of teaching aids and strategies should be adopted to motivate and sustain the interests of the students. Variety serves as great tonic for creating fresh environment and checking boredom and lethargy.

14. Principle of activity. (Already discussed.)

4. MAXIMS OF TEACHING

Significance of Maxims of Teaching. The maxims of teaching are very helpful in obtaining the active involvement and participation of the learners in the teaching learning process. They quicken the interest of the learners and motivate them to learn. They make learning effective, inspirational, interesting and meaningful. They keep the students attentive to the teaching-learning process. A good teacher should be quite familiar with them. Now we proceed to discuss them.

1. Proceed from the known to the unknown. The most natural and simple way of teaching a lesson is to proceed from something that the students already know to those facts which they do not know. What is already known to the students is of great use to the students. This means that the teacher should arouse interest in a lesson by putting questions on the subject matter already known to the pupils. The teacher is to proceed step by step to connect the new matter to the old one. New knowledge cannot be grasped in a vacuum. A civic lesson on the powers of the President of India may start from the powers of the President of Municipal Board or of the President of Village Panchayat. A lesson on profit and loss

in arithmetic can easily be taught to the pupils by referring to the shopkeepers who make profit. A history lesson on Lord Ram may be taken up with the celebration of Ram Lila.

2. Proceed from simple to complex. The simple task or topic must be taught first and the complex one can follow later on. The word simple and complex are to be seen from the point of view of the child and not that of an adult. We would be curbing the interest and initiative of the children by presenting them complex problems before the simpler ones are presented. In a lesson on nature study, for instance, a child will understand the concept of a flower first and thereafter its various parts. Similarly in a geography lesson the teacher will take up the general study of a region or country first and later on a detailed and specific study.

3. Proceed from easy to difficult. We must graduate our lessons in order of ease of understanding them. Students' standard must be kept in view. This will help in sustaining the interest of the students. In determining what is easy and what is difficult we have to take into account the psychological make-up of the child. Logically viewed one skill may be easy but psychologically it may be difficult. There are many things which look easy to us but are in fact difficult for children. The interest of the child has also to be taken into account. Lines are very easy to draw but a child may not like to draw lines. He may try to draw an animal. There is no doubt that it is difficult, but it is more interesting to him and so is easy for him. We should encourage him to do so and our approach will be psychological instead of logical.

4. Proceed from the concrete to the abstract. A child's imagination is greatly aided by a concrete material. "Things first and words after" is the common saying. Rousseau said, "Things. Things. Things." Children in the beginning cannot think in abstractions. Small children learn first from things

which they can see and handle. Very young pupils learn counting with the help of pebbles, etc. A child understands an aeroplane with the help of a model. Actual visits to canals and rivers provide a clear idea of them.

A lesson in geography can be made interesting with the help of models, pictures and illustrations of bridges, rivers and mountains, etc. Care must be exercised to ensure that the students do not remain at the concrete stage all the time. This is only the initial step for children with a view to reach the higher stage of abstraction as they advance in age

5. Proceed from particular to general. Before giving principles and rules, particular examples should be presented. As a matter of fact a study of particular facts should lead the children themselves to frame general rules. The rules of arithmetic, of grammar, of physical geography and almost of all sciences are based on the principle of proceeding from particular instances to general rules.

6. Proceed from indefinite to definite. Ideas of children in the initial stages are indefinite, incoherent and very vague. These ideas are to be made definite, clear, precise, and systematic. Effective teaching necessitates that every word and idea presented should stand out clearly in the child's mind as a picture. For classifying ideas, adequate use must be made of actual objects, diagrams and pictures. Every possible effort should be made to make the children interested in the lesson.

7. Proceed from empirical to relational. Observation and experience are the basis of empirical knowledge. Rational knowledge implies a bit of abstraction and argumentative approach. The general feeling is that the child first of all experiences knowledge in his day to day life and after that he feels the rational basis. For instance, plane geometry makes better sense when taught in the context of everyday life instead of it in the format

of a highly abstract theory. It is always better to begin with what the children see, feel and experience than arguing and generalizing.

8. Proceed from psychological to logical. Logical approach is concerned with the arrangement of the subject matter. Psychological approach looks at the child's interests, needs, mental make-up and reactions. When we treat a subject logically, we are usually thinking of it from our own point of view and not from the point of view of the child. In psychological approach, we proceed from the concrete to the abstract, from the simple to the complex and from known to unknown. We start reading by teaching the child to read a whole sentence, as for him, the unit is the sentence, not the word or the letter as it is for the adult. This is psychological approach. In a drawing lesson a child has little sense in lines and curves. Logically we start with simple lines and curves but psychologically we start with drawing a whole animal.

9. Proceed from whole to parts. Whole is more meaningful to the child than the parts of the whole. J.P. Guildford, E.B. Newman and May Seagoe conclude after their research that the ‘whole' approach is generally better than 'part' learning because the material to be learnt 'makes sense' and its parts can be seen by the learner as interrelated. The learner sees a relationship between the central idea of the material to be learned. The 'whole' unit or passage for slow learners should be smaller than the ‘whole' for the fast learners.

10. From near to far. A child learns well in the surroundings in which he resides. So he should be first acquainted with his immediate environment. Gradually he may be taught about things which are away from his immediate environment. In a geography lesson we start from the local geography and then take up tehsil, district, state, the country and the world gradually.

11. From analysis to synthesis. Analysis means breaking a problem into convenient parts and synthesis means grouping of these separated parts into one complete whole. A complex problem can be made simple and easy by dividing it into units.

12. From actual to representative. When actual objectives are shown to children, they learn easily and retain them in their minds for a long time. This is specially suitable for younger children. Representative objects in the form of pictures, models, etc. should be used for the grown-ups.

13. Proceed inductively. This maxim includes almost all the maxims stated above. In the inductive approach, we start from particular examples and establish general rules through the active participation of the learners. In the deductive approach, we assume a definition, a general rule or formula and apply it to particular examples. An example will make this distinction very clear. 'The farmers in India are very poor' is a general statement in the deductive type of reasoning. The inductive will follow thus: Ram is a farmer. He is very poor. Shyam is a farmer. He is very poor. Krishan is a farmer. He is very poor. In this way from several such examples it will be evident that farmers are poor. Thus we derive generalizations. Both of the approaches, i.e. the deductive and inductive have their own importance. However in general, inductive approach is considered a better one.

Conclusion

In the ultimate analysis it must be observed that the maxims are meant to be our servants and not masters. Moreover, by and large all are interrelated. It is also to be kept in view that children differ in their aptitudes, capacities, interests, mental and physical make up. Different maxims suit

different situations and different children. It is, therefore, essential that a judicious use should be made of each maxim.

Problems and Questions

1." I teach children, not subjects." Explain this statement in the context of child-centered education.
2. Explain any five principles of teaching.
3. Elucidate the role of the teacher in the child-centered education.
4. State the significance of any four maxims of teaching.
5. Explain fully what is meant by the maxims ‘proceed from the known to the unknown’, from 'simple to complex' and from 'concrete to abstract’. Illustrate their values and limitations.

Chapter Four

Methods of Teaching

1 SIGNIFICANCE, NEED AND MEANING OF DYNAMIC AND PROGRESSIVE METHODS OF TEACHING.

The effect of recent developments in educational philosophy and educational psychology upon the methods of teaching has been revolutionary. The central place in the school, in theory at least, has been given to the student. Any process that is not based upon the 'student-activity' is not in accord with recent educational theories. The present century has been termed as 'The Century of the Child''. Rousseau considers that 'child' is a 'hero' in 'the drama of education' and as such he must play the dominant role.

The origin of modern methodology may be traced to 'Great Didactic' of Johann Amos Comenius who lived in the seventeenth century. Comenius believed that all instruction should be carefully graded and arranged in a natural order. He advocated that the teacher, in his methods, should appeal through sense perception to the understanding of the child. He set forth his principles in his 'Great Didactic. The work of Comenius, however, like that of other educators of his time was buried beneath the sea of religious controversy and bigotry of his age.

'*Emile*' of Rousseau in the second half of the eighteenth century laid the foundations of the methodology and became the inspiration of forward looking and progressive educators. Comenius provided some ideas. Rousseau improved and enlarged and others worked upon them and put them into practice. In his chief educational work, 'Emile', Rousseau begins with his principle ''Everything is good as it comes from the hands of the

Author of Nature; but everything degenerates in the hands of man." He points out that there are three great teachers, "nature, man and things".

Johann Heinrich Pestalozzi attempted to "psychologize instruction." He declared that the basis of all education was a drawing out process and not a pouring in process that the basis of all education lay in the nature of the child and that methods of instruction must be sought and constructed to that end.

Wilhelm August Froebel and Johann Friedrich Herbart, disciples and followers of Pestalozzi developed elaborate systems of education. The work of Froebel dealt largely with the Kindergarten stage. Herbart gave his famous 'Herbartian Steps' which cast a flood of light on existing methods. Herbartian steps became the stimulators of various other movements in the field of education. Herbart condemned the rote method and stressed comprehension and association. The concept that the outcome of education was not the strengthening of the mental faculties but rather the building up of an "appreciative mass" of ideas was very revolutionary. Herbartian theory and practice became popular in Germany between 1865 and 1885. Teachers and students from many lands studied at Jena, a center of Herbartian teaching. By 1890, these ideas were brought to America where they received an almost universal acceptance.

The period of Herbartian influence, on the whole, was a transitional one. It prepared the way for newer and better concepts of education. By 1910, Herbartian as a system of education was quite generally criticized. Herbartianism stressed the teacher and the formal procedure of teachings; the new theories of educational philosophy emphasized the pupils. Emphasis during recent years has been on individual instruction in the classroom but the socialization of the individual is not to be neglected. Almost all modern methods and procedures can be used to promote both. It

is believed that socialization can be used in connection with individual development. Through his own activities intermingled with the activities of the group, the pupil can learn and develop. Education must begin with the child and must be adapted to the needs and requirements of the child as he grows. Only in this manner, according to this philosophy, can the individual be made socially efficient.

In the words of Herbart Ward and Frank Roscoe, "While it is true that good method is not merely a collection of artifices or mechanical devices and that every teacher must devise his own method, it is important to remember that good method can result only from the constant observation of certain broad principles. These include orderly procedure in teaching, an arrangement of the subject-matter which will avoid waste of time and of energy and a distribution of emphasis which will secure the greatest cooperation from the pupils and maintain their active interest."

The Secondary Education Commission (1952-53) has emphasized the need for right methods of teaching in these words, "Every teacher and educationist of experience knows that even the best curriculum and the most perfect syllabus remain dead unless quickened into life by the right methods of teaching and the right kind of teachers. Sometimes even an unsatisfactory and unimaginative syllabus can be made interesting and significant by the gifted teacher who does not focus his mind on the subject matter to be taught or the information to be imparted but on his students -- their interests and aptitudes, their reactions and response. He judges the success of his lesson not by the amount of matter covered but by the understanding, the appreciation and the efficiency achieved by the students."

Likewise the Education Commission (1964-66) has stated, "In a modern society where the rate of change and of the growth of knowledge is very

rapid, the educational system must be elastic and dynamic. It must give freedom to its basic units -- the individual pupil in a school, the individual teacher among his colleagues, and the individual school (or cluster of schools) within the system of move in a direction or at a pace which is different from that of other similar units within the system without being unduly hampered by the structure of the system as a whole." Progressive methods of teaching provide suitable opportunities for learning by doing, for observation, for experimentation and for cooperation.

Meaning of a Method

The word method is often used very loosely. It has been supposed to involve a body of fixed and stereo-typed modes of procedures each applicable to its appropriate subject as a kind of ritual to be observed by all teachers, and in all circumstances. In this sense method has been rightly scorned and is now becoming discredited. In the words of Herbart Ward and Frank Rose, "While it is true that good method is not merely a collection of artifies or mechanical devices and that every teacher must devise his own method, it is important to remember that good method can result only from the constant observation of certain broad principles. These include orderly procedure in teaching, an arrangement of subject matter which will avoid waste of time and energy and a redistribution of emphasis which will secure the greatest cooperation from the pupils and maintain their active interest." A method is not merely a device adopted for communicating on certain items of information to students and exclusively the concern of the teacher who is supposed to be at the ‘giving end'. A method must link up the teacher and his pupils into an organic relationship with constant mutual interaction.

2 OBJECTIVES OF METHODS OF TEACHING

1. They should aim at developing 'love for work'.
2. They should aim at inculcating the desire to do work with the highest maximum of efficiency which one is capable of. The motto before the teachers and the students should be "Everything that is worth doing at all is worth doing well."
3. They should develop the capacity for clear thinking.
4. They should provide adequate opportunities for participation in freely accepted projects and activities in which cooperation and discipline are constantly in demand.
5. They should expand the student's interest. As recommended by the Secondary Education Commission 1952-53 "We would urge all schools to provide in the time table, at least one free period every day in which students pursue their favorite hobbies and creative activities individually or in groups, preferably under the guidance of some interested teacher."
6. They should aim at providing opportunities to pupils to apply practically the knowledge and skill acquired by them.
7. Their aim should be to transform schools into 'work schools' and 'activity schools'.
8. They should aim at the quickening of interest and training in efficient techniques of learning and study.
9. They should be adapted to the 3 A's age, ability and aptitude of the students.

3 GREAT EDUCATIONISTS ON DYNAMIC AND PROGRESSIVE METHODS OF TEACHING

The new teaching recognizes the right of the pupil to do things in his own way, within reasonable limits. *–Adams*

Observation more than books, experience rather than person, are the prime educators *-Alcott*

The first principle of true teaching is that nothing can be taught. The teacher is a helper and a guide. His business is to suggest and not to impose. *-Aurobindo, Sri*

The method of teaching which approaches most likely to the method of investigation is incomparably the best. *-Burke*

Teaching is the stimulation, guidance, direction and encouragement of learning. *-Burton*

In a real sense, a teacher may be compared like a conjurer who surprises his audience by keeping the balls in the air at once. The teacher has to encourage forty minds to think of the same subject during a given time. Minds that have different previous knowledge, different interests, and work at different rates. And as the conjurer must be aware of each of the balls so must the teacher be aware of each of the students, now giving a word of special help to one, now asking the question that will make another try to think out a difficulty. *-Catty, N*

Effectiveness in learning lies not in reading and listening but in action, performance and experience. *-Cladwell Cook*

Impression must be ensured by expression and what has to be done must be learnt by doing. *-Comenius*

(a) Where there is experience, there is the living being.

(b) Action must precede knowledge.

(c) Education is by experience.

(d)The teacher is a guide and director, he steers the boat but the energy that propels it must come from those who are learning.

(e)The sole direct path to securing improvements in the methods of instruction and learning consists in catering upon the conditions which exact, promote and test thinking. *-Dewey*

To awaken interest and kindle enthusiasm is the sure way to teach easily and successful. *-Edwards, Tyran*

(a) The object of teaching is to bring more and more out rather than to put more and more in.

(b) Play is the highest phase of child-development. Play is the purest, most spiritual activity of man at this stage (childhood)

(c) To learn a thing in life through doing is much more developing, cultivating and strengthening than to learn it merely through the verbal communication of ideas. *-Froebel*

(a) In my scheme of things the hand will handle tools before it draws or traces the writing. The eyes will read the pictures of letters and words as they will know other things in life, ears will catch the names and the meanings of things and sentences. The whole training will be natural, responsive, and, therefore, the quickest and the cheapest in the land

(b) The superstition that no education is possible without a teacher is an obstacle in the path of an educational progress. A man's real teacher is himself. A diligent person can easily acquire knowledge about many things by himself and obtain the assistance of a teacher when it is needed.

(c) Pupils should know to discriminate between what should be received and what rejected. It is the duty of his teacher to teach his pupils discrimination.

(d) When our children are admitted to schools, they need no slate and pencil and books, but simple village tools which they can handle freely and remuneratively. This means a revolution in educational methods.

(e) I want the whole process of education to be imparted through some handicraft or industry.

(g) The core of my suggestion is that handicrafts are to be taught not merely for production work but for developing the intellect of the pupils.

(h) I do not want to teach the village children only handicrafts. I want to teach through handicrafts all the subjects like History, Geography, Arithmetic, Science, Language, Painting, etc. *-Gandhiji*

(a) The main principle which psychology lends to the theory of education as its starting point, is the need that all communication of new knowledge should be a development of previous knowledge.

(b) Interest arises from interesting objects and occupations. Many sided interest originates in the wealth of these. To create and develop this interest is the task of instruction which carries on and the preparation begun by intercourse and experience.

(c) Interest means self-activity. But not all self-activity, only the right degree of the right kind is desirable, else lively children might well be left to themselves. There would be no need of educating or controlling them. It is the purpose of instruction to give the right direction to their thoughts and impulses, to incline these toward the morally good and true. *-Herbart*

I care not what subject is taught if only it is taught well. –Huxley

I keep six honest serving men,

They taught me all I know

Their names are What, and Where and When,

And How and Why and Who *-Kipling, Rudyard*

A tutor should not be continually thundering instruction into the ears of his pupil, as if he were pouring it through a funnel, but induce him to think to distinguish and to find out things for himself; sometimes opening the way, at other times leaving it for him to open; and so accommodate his precepts to the capacity of this pupil. *-Montaigne*

We have buried the tedious and stupid ABC primer side by side with the useless copy books. *- Maria, Montessori*

Nature invented play - as a device for using that energy to prepare him for serious business of life. *-Nunn, T.P.*

Modern teaching sets no limits to the kinds of experiences which may be employed, and imposes no restrictions upon the ways in which these are to be conducted. *-Panton, J.H.*

(a) Our unpsychological schools are essentially only artificial stifling machines for destroying all the results of the power and experience that nature herself brings to life.

(b) When I now look back and ask myself: What have I specially done for the very being of education? I find I have fixed the highest, supreme principle of instruction in the recognition of sense impression as the absolute foundation of all knowledge.

(c) All the beneficent powers of man are due to neither art nor chance, but to nature, and that education should be in accordance with the courses laid down by nature.

(d) Nature develops all the powers of humanity by exercising them, they increase with use. *–Pestalozzi*

(a) Do not give your pupil any sort of verbal lesson, for he is to be taught only by experience.

(b) Nature wills that children should be 'children' before they are men... Childhood has ways of seeing, thinking, feeling peculiar to itself; nothing is more absurd than to wish to substitute ours in their place.

(c) I wish some discreet person would give us a treatise on the art of observing children -an art which would be of immense value to us, but of which fathers and schoolmasters have not as yet learnt the very first rudiment.

(d) The highest function of the teacher consists not so much in imparting knowledge as on stimulating the pupil in its love and pursuit.

(e) To know how to suggest is the art of teaching.

(f) Children are restless and then curious. Instead of making the child stick to his books, I keep him busy in workshop, his hands will work to the profit of his mind. *–Rousseau*

(a) Teach the pupil not only to answer questions but also to question answers.

(b) Education does not mean teaching pupils what they do not know. It means teaching them to behave as they do not behave. It is not teaching youth the shapes of letters and the tricks of numbers and then leaving them to turn their arithmetic to roguery and their literature to lust. It means, on the contrary, training them into the perfect exercise and kingly continence of their bodies and souls. –Ruiskin

(a) The object of teaching by the heuristic method is not so much to teach facts...as to teach how knowledge of facts may be obtained, of how they can be systematized and of how they may be used. Pupils who are taught in this way learn to be observant, exact and to think for themselves.

(b) The guidance of the teacher is mainly a matter of giving the right kind of stimulus to help him to learn the right things in the right ways.

(c) It (teaching) is also the encouraging and training of the emotional life. This is an aspect of teaching which is very commonly neglected at least in practice. But our teaching will be only one sided and distorted unless we take into account the necessity for helping the child to develop a stable emotional life.

(d) To teach we must use experience already gained as a starting point for our work. *-Ryburn*

The secret of successful teaching is to teach accurately, thoroughly, and earnestly; this will impart interest to instructions and awaken attention to them. All sciences, in their nature of connections, are replete with interest, if teachers properly illustrate and impress their truths in a pleasing, earnest manner. *- Simmons, C*

Children should be told as little as possible and induced to discover as much as possible . *–Spencer*

To the child, the environment will provide an ever ready background for its spontaneous activity. –*Tagore*

And other's follies teach us not,

Nor much their wisdom teaches,

And most, or sterling worth, is what

Our own experience teaches. –*Tennyson*

Teaching means skilful questioning to force the mind to see, to arrange, to act. -*Thring*

(a) No one was very really taught by another, each of us has to teach himself.

(b) You cannot teach a child more than you can grow a plant. The plant develops its own nature. The child also teaches itself.

(c) All knowledge, therefore, secular or spiritual, is in the human mind. In many cases it is not discovered, but remains covered, and when the covering is being slowly taken off, we say, "We are learning" and the advance of knowledge is made by the advance of this process of uncovering. The man from whom this veil is being lifted is the more knowing man, the man upon whom it lies thick is ignorant, and the man from whom it has entirely gone is all-knowing omniscient.

(d) From the lowest man to the highest yogi, all have to use the same method to attain knowledge. The chemist who works in his laboratory concentrates all the powers of his mind, brings them into one focus, and throws them on the elements: the elements stand analyzed, and thus his knowledge comes. The astronomer concentrates the powers of his mind and brings them into one focus; and he throws them on to objects through his telescope and stars and systems roll forward and give up their secrets

to him. So it is in every case: with the professor in his chair, the student with his book, with every man who is working to know. -*Vivekananda, Swami*

4 TRADITIONAL AND DYNAMIC AND PROGRESSIVE METHODS OF TEACHING

Drawbacks of the Traditional Methods of Teaching

1. They are dominated by 'verbalism' the delusion that if a student is able to memorize or repeat certain words, or phrases, he has grasped the facts or the ideas that they are meant to convey.

2. They seldom relate teaching to life.

3. There is no determined attempt to develop expression in speech and writing.

4. they do not provide enough suitable opportunities to students for self-activity.

5. They lack motivation and fail to arouse real interest.

6. The teachers rely upon dictating notes and the children memorize them at home for passing examinations and tests.

7. Practical and productive work does not find a prominent place.

8. Chalk and talk" dominate.

9. Methods are usually devoid of correlating and integrating various subjects and experiences.

10. They do not train the students in the 'art of study'.

11. They do not suit different levels of intelligence.

12. They encourage learning from 'notes' and summaries rather than textbooks.

13. They do not make adequate use of audio-visual aids.

Chief Characteristics of Dynamic and Progressive Methods of Teaching

1. The methods of teaching in schools should aim not merely at the imparting of knowledge in an efficient manner, but also at inculcating desirable values and proper attitudes and habits of work in the students.

2. They should, in particular, endeavor to create in the students a genuine attachment to work and a desire to do it as efficiently, honestly and thoroughly as possible.

3. The emphasis in teaching should shift from verbalism and memorization to learning through purposeful, concrete and realistic situations, and for this purpose, the principle of 'Activity Method" and 'Project Method' should be assimilated in school practice.

4. Teaching methods should provide opportunities for students to learn actively and to apply practically the knowledge that they have acquired in the classroom. 'Expression work' of different kinds must, therefore, form part of the program in every school subject.

5. In the teaching of all subjects special stress should be placed on clear thinking and clear expression both in speech and writing.

6. Teaching methods should aim less at imparting the maximum quantum of knowledge possible and more on training students in the techniques of study and methods of acquiring knowledge through personal effort and initiative.

7. A well-thought-out attempt should be made to adopt methods of instruction to the needs of individual students as much as possible so that dull, average and bright students may all have a chance to progress at their own pace.

8. Students should be given adequate opportunity to work in groups and to carry out group projects and activities so as to develop in them the qualities necessary for group life and cooperative work.

5. FACILITATING FACTORS OF DYNAMIC AND PROGRESSIVE METHODS

1. **Feeling of reform in the air.** The individual teacher is most likely to try bold changes in teaching practice if there is a feeling of reform in the air and if he sees his small contribution as part of a major social revolution.

2. **Eagerness of the inspectorate.** The experimenting teacher must have much more than the passive acquiescence of the school inspectors. He must feel that officers of the Education Department are personally eager to see experimentation and that they are willing, within reasonable limits, to accept a proportion of failures as part of the price.

The Inspectors are the key figures in any reform of classroom practice. They are *Authority*, present and obvious. They should be consulted from the beginning, should know that their criticisms and suggestions carry weight, and should be made to feel that the proposed changes are, in some measure, their reforms. A school system can be no more elastic or dynamic than the Inspectors will let it be. Which is why the in-service education of inspecting officers assumes great significance.

3. **General support of the profession to experimentation.** The sympathy and support of headmasters and senior teachers must be won quite early in

the program if they are not to dampen all youthful ardour to experiment and explore. They may not want to break new ground themselves. But if they do not feel they are being bypassed and that the new system is not being foisted on them, they can become its patrons, if not its practitioners. There is also much to be gained by winning the approval of teachers' organizations to any movement that increases flexibility in the school system. Individuals will experiment more readily if they feel that experimentation has the general support of the profession..

4. Team work and a sense of security. Anything that breaks down the isolation of the teacher increases his sense of assurance and makes it easier for him to adventure. The strengthening of the teacher's sense of inner security is a purpose common to all the methods advocated to increase the elasticity or dynamism in a school system. It is the basis of all real reform in teaching practice. There are occupations where a mass advance can be achieved by the invention of new equipment and the issuing of instructions for its use. No worthwhile advance is possible in teaching method unless the individual teacher understands what he is doing and feels secure enough to take the first new steps beyond the bounds of established practice. It is easier for a teacher to do so in a small group than when he is working alone, The success of 'team teaching' in introducing new teaching techniques into some American schools is based on the fact that it is not the individual but the team that is responsible for the planning and execution of new methods. It is our belief that the proposed organization of a school complex in which the teacher works in a cooperative group is more likely to help flexibility than the present system of isolation.

5. **Mastery of the subject matter.** Nothing reduces a teacher's sense of security or his willingness to take advantage of freedom so seriously as

does his ignorance of the subject matter he has to teach. If he is only a few lessons ahead of his class he dare take no risks, and finds safety in the old routine of rote memorizing. Increasing the teacher's level of general education is, in general, the surest way of ensuring that some of them will adopt livelier and more meaningful methods of teaching.

6. Provision for a good library and teaching-learning material. Obviously elasticity or dynamism will be increased if there is a reasonable provision of books, teaching materials, and services that will enable some children to undertake part of their work alone or in groups. There is a limit to what can be expected of the most imaginative teacher if all he has is a bare room, a blackboard, a standard textbook, and sixty pupils. The most pressing needs for a teacher who wants to branch out on new methods are, therefore, a good supply of books and paper, and particularly at the lower levels of school education, some simple tools and materials for making equipment.

As the proper use of a well-equipped school library is absolutely essential for the efficient working of every educational institution and for encouraging literacy and cultural interests in students every secondary school should have such a library; class libraries and subject libraries should also be utilized for this purpose.

Trained librarians, who have a love for books and an understanding of students' interest, should be posted in all secondary schools and all teachers should be given some training in the basic principles of library work, in the training colleges as well as through refresher courses.

Where there are no separate public libraries, the school libraries should, so far as possible, make their facilities available to the local public and all public libraries should have a special section for children and adolescents.

7. Role of teacher's training institutes. When in doubt, teachers will teach in the way they were taught themselves and not in the way they were told to teach. So, if a school system is to become more flexible and teaching methods more lively and varied, it is essential that these qualities be established very early in the practice, as well as in the theory, of at least some of the teacher training institutions at both the primary and the secondary level should become centers for devising, testing, and adapting methods and materials to be used in the schools.

8. Demonstration and experimental schools. Schools in order to popularize progressive teaching methods and facilitate their introduction, "Experimental" and "Demonstration" schools should be established and given special encouragement where they exist, so that may try out new methods freely without being fettered by too many departmental restrictions.

9. Cooperation of the parents. A teacher or an institution will be able to introduce innovations more easily if the parents of the pupils know enough about their purpose so as not to have any fear that they will interfere with their children's chances at the final examination. A strong and respected headmaster or teacher can probably best win over the parents by his own efforts; but in most cases, it will be necessary for the Department to help in convincing parents that changes in methods are desirable and officially approved.

6 SEVEN-FOLD DIVISION OF METHODS

1. Inspirational methods. These methods are primarily based on high activity on the part of the teacher.

2. Expository methods. In these methods cognitive emphasis is very high, while student activity and emphasis on experience is low. One good

example of expository method is the lecture method in which the main emphasis is on imparting cognitive information to the learners.

3. Natural learning methods. The main rationale of these methods is that learning takes place in a natural way and planning for learning is not necessary. Learners are left on their own, with free and unplanned activity. Thus, the emphasis on learning activity is high, whereas it is low on planned experience and on cognitive inputs.

4. Individualized methods. These methods are quite well known mainly through the popularity of programmed instruction. The main characteristic of these methods is the guided search encouraged by the instructor or the teacher. In addition to programmed instruction, self-study, computer-oriented instruction, case method and prescribed experiments in science are other examples of individualized learning in which the main emphasis is for each learner to learn at his own pace.

5. Encounter methods. Carl Rogers had popularized the term encounter, although several other terms are used like T-group, sensitivity training, interpersonal confrontation and so on. In these methods the main emphasis is on experience and learner activity. Since the emphasis is on providing experience through confrontation or through encounter, and not through congnitive understanding, these methods are effective for change in basic behavioral patterns and developing new ways of looking at things. Role play also involves some amount of encounter.

6. Discovery methods. These methods are high on all the dimensions: learner activity, experience and experimentation by the learner, and cognitive understanding. Simulations primarily come under the category as also self-generated experiments in science. The main emphasis of methods in this category is on problem solving and providing necessary framework

to the learner, so that while solving the problem the learner is also able to learn the rationale and logic of what he has done.

7. Group methods. Project method and socialized classroom method come under this category. Methods are also classified as under:

In this classification, a few devices of teaching are also included as some writers term these devices as methods of teaching. In fact there is no clear-cut distinction between the term methods and devices:

1. Assignment Method.

2. Dalton Plan.

3. Discussion Method.

4. Laboratory Method.

5. Lecture Method.

6. Montessori Method.

7. Observation Method.

8. Play-way Method/Approach

9.Questioning.

10. Problem Method.

11. Project Method.

12. Review Method.

13. Socialized Classroom Recitation Method.

14. Source Method.

15. Story Telling Method.

16. Supervised Study Method.

17. Textbook Method.

7 TEACHING AND LEARNING IN THE OUTDOORS

Meaning and Significance. Teaching and learning in the outdoors implies teaching and learning outside the four walls of the classroom. It may also imply teaching and learning outside the school premises, i.e., from natural surroundings and from various community resources. This approach to education is based on the well-established principle of learning by doing.

The principal premises underlying the implication of outdoor education for all subjects and at all levels are:

That which can be learnt inside the classroom should be supplemented by outdoor learning. That which can be learnt in the outdoors through direct experience is more durable and effective.

That people and things are seen in their true relationships in the outdoor learning.

That school is not the only place of teaching-learning.

That the hidden curriculum outside the school should be taken note of.

Over the years, educator-philosophers like Comenius (1592-1670), Rousseau (1782-1852), Pestalozzi (1746-1827), Herbart (1746-1841), Froebel (1782-1852), Spencer (1820-1903), Dewey (1859-1952), Tagore (1861-1941) and Gandhiji (1869-1948) have pointed out the need for reinforcing abstract learning with concrete experiences. Going back to the Vedic and Epic periods, we find that Ashrams, mostly located at pleasing

surroundings in the countryside/forests were the most important places of teaching-learning.

Lord Chesterfield (1694-1773) in a letter to his son away at school, aptly advised him, "The knowledge of the world can only be acquired in the world and not in a closet. Books will never teach you but they will suggest many things to your observation."

Gandhiji observed, "It is gross superstition to suppose that knowledge can be obtained only by going to schools and colleges. The world produced brilliant students before schools and colleges came into being.

Outdoor education aims at enriching, vitalizing and complementing content areas of the school curriculum by means of first hand observation and direct experience outside the classroom. By extending the classroom into the out of doors, a setting can be provided for bringing deeper insight, greater understanding and real meaning to those areas of knowledge which, ordinarily, are merely read and sometimes discussed and seldom experienced.

Justification for outdoor education also lies in the fact that concepts necessary for everyday living are more readily developed through first hand learning.

Scope of Outdoor Learning. There is a lot of scope for learning outdoor. The outdoor activities for learning begin with the trees in the schoolyard, shrubbery, grass and playground. Of course, here learning experiences are available from a few minutes to one hour or more. Learning experiences of longer duration may be conducted at a nearby park, bird sanctuary, city museum and zoo, etc.

In Andhra Pradesh, a teacher teaching second grade may take her class in a tobacco farm. Here, over a period of two hours, the children observe how tobacco is cultivated, picked and cared for marketing. Outdoor education is here agricultural and industrial education.

In Assam, a group of high school students learns the skill involved in archery during their physical education periods.

In Delhi, a sixth grade class may start the school year with one week of camping. Students fish, swim, hike, cook over an open fire and sleep under the stars. The students learn several things including training in citizenship.

During snowfall, students can learn where and how do insects and animals spend the winter! What constellations are visible in the night sky. Scope for learning is very vast.

Outdoor Learning Activities Related to School Curriculum

1. Arithmetic

Measuring: a board foot, age of tree through ring count, dimensions of buildings, etc.

Estimating: Time of the day, height of tree, etc.

Averaging: Temperature readings, barometric readings, operating a bank, a store, etc.

2. Languages.

Writing letters to friends and relatives, keeping field notes, using the library for supplementary information, labeling specimens, newspaper reading, etc.

3. Social Studies.

Looking for old relics, visiting local spots of historical interest, putting on a pageant about a local historical event, witnessing the proceedings of the village panchayat, etc.

4. Natural Sciences.

" Taking nature hikes, learning to recognize bird and animal sounds, using microscope and hand lens for closer scrutiny of parts, studying and collecting rocks, fossils and soils, visiting a quarry, conducting soil experiments, night study of major constellations, recording phases of moon, making weather observations, visiting game and forest reserves, etc.

5 Health, Physical Education and Recreation.

Practicing outdoor safety, carrying out service projects, skating, skiing, playing games, etc.

6. Arts, Crafts and Music.

Clay work, making simple camp furniture, taking photographs, collecting weeds, grasses, feathers, etc.

Planning and Implementing the Outdoor Programs

To achieve the maximum benefit from outdoor learning programs, it is very important that they are properly planned and implemented. The teachers and the students should work out the plan jointly. Every outdoor program must be a result of careful thinking. The teachers and others associated with the program would do well to obtain adequate information well in advance regarding the places to be visited so that they are able to provide suitable replies to the queries of the students.

The fact that outdoor program are arranged for educational cum recreational purposes should not be lost sight of. Learning and laughing should go hand in hand.

The appointment of group teachers facilitates work to a considerable extent.

The importance of maintaining discipline in outdoor work can hardly be ignored. Of course, students may be given reasonable amount of freedom for observing and mutual exchange of ideas.

Follow-Up

The outdoor teaching-learning program extends back to the regular classroom before it can be said that the project is completed. Following are the important activities involved in follow-up:

1. Classifying and identifying all collections and specimens brought back.

2. Learning more about these specimens from books and other sources.

3. Preparing exhibits and sharing materials and learning with others.

4. Returning borrowed equipment to others.

5. Writing 'thanks you' letters.

6. Evaluating the outcomes of the outdoor program.

7. Preparing notes on the outdoor program.

PROBLEMS AND QUESTIONS

1. "Children should be told as little as possible and induced to discover as much as possible." Explain this statement.
2. "Effectiveness in learning lies not in reading and listening but in action, performance and experience." In the light of this statement, bring out clearly the significance of modern methods of teaching.
3. "To know how to suggest is the art of teaching." Elucidate this statement.
4. How do modern methods of teaching differ from the traditional ones?
5. List the chief characteristics of dynamic methods of teaching. How can dynamic methods be popularized?
6. Suggest measures for encouraging teachers to use dynamic methods of teaching.
7. "Learning and teaching are not confined to classroom." Explain this statement and suggest avenues for outdoor learning and teaching.

Chapter Five

Fixing Devices in Teaching

1. IMPORTANCE AND NATURE OF FIXING DEVICES

Fixing devices in teaching are those devices that help in fixing the knowledge and understanding in the mind of the child, i.e. that help in making durable impressions and strengthening the hold of the child over the subject matter. It is our common experience that children often do not take first impression and if they do, they usually lose it shortly. It must be borne in mind by the teachers that the minds of the students are not like stone, to be engraved. On the other hand, their minds are like wax to be moulded and then hardened. Fixing devices in teaching first mould and then harden the minds of the students - first create impressions and then make these impressions durable through practice or repetition. The law of practice and repetition is the basis of fixing devices. It is undoubtedly true that a reasonable amount of practice makes one perfect. Fixing devices will not allow the first impressions to disappear. They will improve / the grasp of the students over the subject-matter taught to them.

Following are the chief fixing devices:

1. Drill

2. Review

3. Questioning

4. Describing Outstanding Problems

2 DRILL

Drill implies practice with understanding and with a clear idea of objectives involved in drill. Drill, if not done in a balanced way, can be abused and misused. It should not be regarded as a mere repetition of an act to attain proficiency or perfection in a performance, irrespective of the needs and interests of the students. Drill is not a mere mechanical repetition of a lesson or a part of a lesson. Drill is helpful in reading, spelling and pronunciation in languages, learning tables in arithmetic, developing skill in handwriting and remembering dates and facts in social studies and principles and rules in natural sciences.

Effective drill is not only helpful in developing knowledge and skills, but also it is a means of developing and maintaining good habits when they are once established. Intelligent drill is always effective and purposeful and unintelligent drill is purposeless and wasteful besides being boring and monotonous. As Yoakam and Simpson have observed, "Drill is a serious work-activity which has for its purpose the perfection of a skill or the strengthening of association to make them more permanent." This purpose could be achieved only with intelligent drill.

Important Principles of Drill

1. The students should be well acquainted with the objective of the drill.
2. The students should understand the material which they are to repeat.
3. The material to be memorized or drilled should belong to the 'whole of which it is a part.
4. Drill should be well-organized. Drill exercises should be short and distributed over a period of time.
5. The student who is put on drill exercises should be oriented to the

process of practicing or drill from the very beginning.

6. Drill exercises should be graded. To start with, we can put the student on easy exercises and gradually on difficult ones.
7. The material to be drilled, or memorized, should be meaningful.
8. Drill work should be constantly supervised by the teacher so that good responses are secured from the very beginning.
9. Student's attention should be centered on definite improvement.
10. Drill should be treated as an individual affair and it is a wrong practice to ask the entire class to undertake all types of drill work, unless absolutely necessary.
10. Drill should be varied and it may take different forms so as to avoid monotony.

3 REVIEW OR REVISION

Meaning and significance. Review is a ‘retrospective view’ of what has been learned or experienced. According to the literal meaning it means to 'view again'. In the words of Bossing, "The term review connotes not a mere repetition of facts to fix them more firmly in mind, but rather a new view of these facts in a different setting that results in new understandings, changed attitudes, or different behavior patterns." According to Rusk, "Review means getting a new view or renewal of an old view to assure a better view or grasp of relationships studied."

Dr. Yoakam and Simpson think, "the review involves a recall for purposes of renewing the learning already passed and of carrying it on to mastery. It is the reorganization and integration of experiences," H.N. Rivilin regards review as, "deepening the students insight into the

problem.....increasing his appreciation of its ramifications." Review must recall essential facts and appraisals of segments of experience in a final summary that actually involves a new view and a new understanding and provides a basis for changed behavior.

A good review involves a new way of handling the instructional material and instructional process and as such is very helpful in stimulating children's interest. Reviews can be very dull affairs if they are conducted as drill by merely repeating materials over and in exactly the same way each time. A variety of forms of review should be used to make a review interesting. Review may be conducted by preparing charts, graphs, tables and introducing games and quiz, etc.

Purposes of review. Following are the purposes of review:

1. Fixing in mind activities or materials learned.
2. Organizing the materials and experiences into larger units for understanding.
3. Enabling the students to gain perspective.
4. Providing for desirable expansion and supplementation of materials and experience.
5. Providing a perceptive basis for future study.
6. Diagnosing student weakness in preparation and understanding.
7. Diagnosing teacher weakness.
8. Creating new interest in old materials.

Forms of reviews. Some of the important forms of review are as under:

(a) The daily lesson review.

(b) Topical review.

(c) Review by answering questions and making questions or cooperative review.

(e)Review by making a chart, graph, model, a statistical table, map, diagram, picture, etc.

(f) Review by application.

(a) **The daily lesson review.** At the beginning of the period, the teachers would do well to devote a few minutes to review what has been already covered previously. The previous lesson may be summarized, 'Recapitulatory' type of questions may be asked.

(b) **Topical review.** This implies the review of the topic already covered. Take for instance the Gupta period. After covering all the rulers of the dynasty, a few lessons may be devoted to the review of the whole dynasty.

(c) **Cooperative review.** Questions and answers both by the teacher and students can serve the purpose of review when the topic is finished.

(d) **Review by making charts, models, etc.** The teacher may use blackboard for this purpose and draw diagrams or tables, etc., to give the salient points of the lesson in an interesting manner. Students can also be asked to do all those activities in the class.

(e) **Review by application.** Practical application is also used in the conduct of reviews. The students may be asked to apply the knowledge gained to new situations.

Review Activities.

(a) Noting the chapter and paragraph headings in books.

(b) Studying the summaries of sections, chapters and parts of books.

(c) Underlying facts in paragraphs.

(d) Making marginal notes in the book.

(e) Reading a few of the selected references.

(f) Making a bibliography.

(g) Paraphrasing poetry.

(h) Making out sets of test questions.

(i) Making a collection of articles, objects, etc.

(j) Writing out observations.

(k) Reciting.

(l) Making a chart.

(m) Making a graph.

(n) Making a statistical table.

(0) Making an outline map.

Guidelines for Conducting Reviews.

1. More essential points should be emphasized in review and minor details disregarded.

2. Usually that subject matter should be reviewed in which the students are weak.

3. Exercise in the textbook may be used for review.

4. There should be reviews at short and long intervals.

5. Review to be effective should organize previous knowledge.

Drill and Review: A Comparison

	Area	Drill	Review
1	Aim	Development of skill	Longer retention and greater thoroughness
2	Method	Exact repetition of the material	Presentation of the material in different forms
3	Nature of recall	Recall of every detail	Recall of only salient points
4	Appeal	Mechanical association and therefore memorization	Logical association and therefore involvement of thinking
5	Spirit	Dullness	Interesting, hence sustenance of interest

4 QUESTIONING AND ANSWERING

Significance of questioning. It is well said about the importance of questioning:

"I keep six honest serving men,
They taught me all I know,
Their names are what and why and when,
And how and where and who."

Significance of Questioning. The art of questioning is the most potent weapon in the educational armory of the teacher. "Good questions". writes F. Theodore Struck, "by their very nature, are educative, and they have a very prominent place in all kinds of learning." Questioning plays an indispensable part in 'learning', 'teaching', and 'testing'. If used in the right way, at the proper time, questions lead to new realms of understanding;

they serve as means of organizing knowledge, or correlating the results of educative experiences; of tying together units of learning; and of integrating personality. One who questions faultlessly teaches effectively, is not without meaning. Salmon holds that a bad questioner is a bad teacher; he may be a good lecturer. In the words of Ryburn, "It is not exaggeration to say that the success of a teacher in any particular lesson, and in teaching in general, depends upon his ability to question well." According to Raymont, "The acquisition of a good style of questioning may be laid down definitely as one of the essential ambitions of a young teacher." It has been well said:

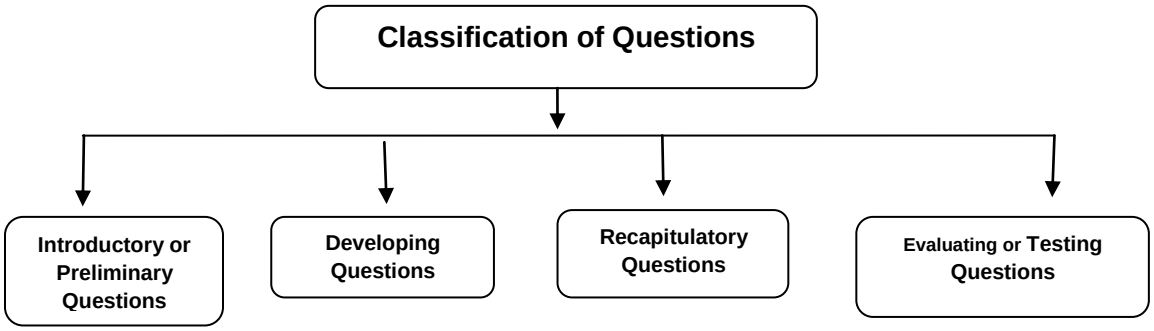
Purpose of Questions

1. To test the previous knowledge of the students.
2. To enable them to recall something.
3. To enable them to recognize something.
4. To enable them to think over something.
5. To enable them to reason about something.
6. To elicit something from students.
7. To stimulate interest and effort on the part of students.
8. To keep the children mentally alert.
9. To promote initiative and originality.
10. To stimulate the curiosity of the students.
11. To ascertain whether they are following the lesson or not.
12. To link new knowledge with old.
13. To revise the lesson and thus fix the facts in the minds of the students.
14. To secure the cooperation of the students.

15. To diagnose the weak points of students.

16. To formulate general rules.

17. To synthesize.



Skills in Introductory Questions/Preliminary Questions.

These questions are generally asked at the beginning of the lesson. These serve the following objectives:

(i) Test the previous knowledge of the students.

(ii) Link the new knowledge with the already learnt knowledge.

(iii) Motivate the child and arouse his curiosity.

These questions enable the teacher to test the readiness of the students' mind and their entering behavior. Questioning at this stage enables the teacher to follow the maximum 'Form known to the unknown'.

Questions should be relevant to the topic. The number of questions should be very small, say three or four.

Skills in developing questions. These questions are said to be the backbone of the lesson. They are used:

(i) to develop a particular line of thought;

(ii) to lead to pupils to discover facts for themselves;

(iii) to formulate new generalizations in an inductive way;

(iv) to focus attention on important points;

(v) to develop knowledge step by step;

(vi) to enable the students to use their powers of observation, of comparison and concentration;

(vii) to break the narrative in order to ensure that the class is following; and

(viii) to make the inattentive students attentive ones.

A great skill is required on the part of the teacher to ask developing questions. The teacher has to lead the students to think and discover facts for themselves. While narrating a story, the teacher should not ask questions.

Recapitulatory Questions. Such questions are generally put at the end of a lesson or at the end of each section of the lesson.

Such questions serve two purposes:

1. To enable the teacher to know if the children have picked up the ideas he wanted them to learn.

2. To serve the purpose of revision and to give a good opportunity of practice.

Skills in Evaluating or testing questions. These questions relate to periodic internal as well as external evaluation.

Types of Questions

(1) Comparison or contrast. Example: What is the difference between wealth and capital?

(2) Decision for or against. Example: Do you consider it correct to call Chandragupta Maurya as the first Emperor in India?

(3) Application in new situations. Example: Suggest measures to remove illiteracy in your village or town.

(4) Classification. Example: Are the following free goods or economic goods - air, sun-shine, machinery, gold, food?

(5) Relationship between cause and effect. Example: What is the relation between population and economic prosperity?

(6) Example or Illustration. Example: Describe cases when prices rise with the decrease in the supply of some commodities.

(7) Statement of aim. Example: Why is the author interested in the study of problem children?

(8) Criticism. Example: Do you think Ashok was justified in following the policy of 'Non-violence'? Elucidate.

(9) Inference. Example: From the data given, which place do you consider to be more hotter?

(10) Discussion. Example: Discuss the most important proposals for bringing down the prices.

(11) Definition. Example: Define elasticity of demand.

(12) Recall. Example: What do you consider the three most important inventions of the last century?

(13) Summary. Example: What were the causes of the downfall of Mughal Empire?

(14) Observation. Example: Observe this experiment.

(15) Formation of new questions. Example: What questions did occur to your mind after listening to the exploits of Samudra Gupta?

THREE LEVELS OF CLASSROOM QUESTIONS

Questions are broadly divided into three levels as under:

1. Lower order questions.
2. Middle order questions.
3. Higher order questions.

I. EXAMPLES OF LOWER ORDER QUESTIONS

Recall

1. When was Jawaharlal Nehru born? (Recall of fact)
2. What is the definition of force? (Recall of definition)
3. What are the laws of gravitation? (Recall of laws)

Recognition

1. What words in this sentence are adjectives? (Seeking recognition of certain words as adjectives)

2. What is this? (Showing a barometer in the class) (Seeking recognition of an object)

II. EXAMPLES OF MIDDLE ORDER QUESTIONS

Translation

1. What does this model represent? (Seeking the translation of an idea contained in a model into the verbal form)

2. How can we represent 'happiness' of the child in a picture? (Seeking the translation of an idea into a pictorial form)

3. Define 'state' in your own words. (Seeking a change in the mode of expression of a definition)

Comparison

1. Compare the city life and the village life. (Seeking Comparison to search for similarities and dissimilarities)

2. Compare the similarities between the powers of the Prime Minister and Chief Minister? (Seeking the comparison through pointing out similarities). ***Explaining Relationships.*** How is price rise related to demand and supply?

Application. Considering natural resources and climatic conditions of this place, which industry can come up here?

III. EXAMPLES OF HIGHER ORDER QUESTIONS

Analysis. Does the evidence support the generalization that farmers in India are in debt?

Syntheses. What sort of life do you expect without printed material?

Skills in Questioning. The teacher should bear in mind the following in this connection.

1. The question should be asked first and then the student asked to answer it. The main advantage in asking the question first is to set the whole class thinking to find out the answer. On the other hand, if a particular student is asked to stand or sit, as the case may be, and then the question is put to him, other students may not show much interest.

2. Questions should be evenly distributed. No child should be neglected. At the same time questions should not be given in a regular order round the class. Generally there is a tendency to put either too many questions or too less to the students sitting at the back or in the front. Such a tendency should be avoided.

3. Plenty of time should be allowed for pupils to think out the answer. However, the time allowed will depend upon the nature of the question.

4. The inability of a child to answer a question should be accepted. The teacher should avoid to waste a lot of time in trying to get an answer out of a child who cannot answer.

5. A volley of questions asked in a rapid-fire manner is upsetting.

Characteristics of Good Questioning

1. The language of the question should be simple.

2. Questions should not be ambiguous, lengthy and vague. They should be clear, brief and to the point.

3. They should be suited to the ability of the children to whom the questions are put.

4. Questions should be relevant to the topic.

5. Questions should be graded. They should neither be too easy, nor too difficult. If the problem is too easy, the child will not take any interest in it. If it is too difficult, he will get discouraged.

6. Question once asked should not be repeated unless the teacher is sure the class has not followed it.

7. The teacher should try to vary the form of his questions.

8. Two questions should not be asked in one.

9. Questions should be interesting as far as possible.

10. Questions should be framed in such a way that these do not encourage guess work. The teacher should not generally admit answers like 'yes', 'no', or other single words.

11. Questions should be of developing nature. Every question should grow out of the response of the previous one. Questions should be in a sequence so that lesson may develop properly.

12. Suggestive questions such as "Was Sardar Patel an iron man?" should be avoided as they fail to encourage mental activity.

13. Leading questions such as "Do you know that Subhas Candra Bose was the founder of the Indian National Army?" should not be asked.

14. Echo questions such as "Mahatma Buddha was born at Lumbini. Where was Mahatma Buddha born?" should not be asked.

15. Phrases like "Can anyone answer this question?" should be avoided.

16. Questions should be addressed to the entire class.

17. Questions should be asked in a pleasing manner.

18. Questions should be put in such a way that every student thinks that he will be asked to answer whether he is good or weak.

19. Adequate time should be allowed to answer.

The teacher's attitude to pupils' questions. Following points should be kept in mind:

1. The students should be encouraged to ask questions.

2. Relevancy in questions should be insisted upon.

3.The teacher must insist on courtesy. Several pupils should not be allowed to ask questions at the same time. Everyone should be asked to listen to a question.

4. Pupils' questions may be made the starting point for a small project.

5.The teacher should be frank enough to admit his inability to answer a question when he does not know the answer. However, in due course, he should be able to answer that question. For the sake of prestige in the eyes of the students, he should not give a wrong answer.

Judicious blending of talking and questioning. Questioning is not a one-way traffic. There is an ample scope for the teacher as well as the students to put questions. The teaching-learning process is effective only when the teacher as well as the pupils are active and cooperative. The aim of the teaching-learning process is to enable the child learn in such a way that it enables him to adjust himself to the environment. As both the teachers and the pupils are attempting to realize the same goal, it is evident that they must be active and not passive.

Skill in answering.

The same care and skill in dealing with pupils' answers, as in questioning them should be shown. After all, what for do we ask questions?

Not for the sake of question! The aim is to motivate children, to create interest, to test what the child knows and what he does not know, to encourage and stimulate thinking and fact finding and to clear ambiguities and doubts. The quality and the nature of the answer reveal whether the purposes of questioning are fulfilled or not. Rather it may be put that questioning is a means to teach something that is revealed through the answers. Questions and answers may be compared with the blades of scissors. Both are indispensable in the teaching-learning process as both the blades are required to cut a piece of cloth.

Answers reveal the deficiency of the students as well as the teachers. They are the touchstone to test the effectiveness of the teaching-learning process. If the answers are not satisfactory, it clearly indicates that either there is something wrong with the teaching process or with the learning process. Either the teacher has not taught in the proper manner or the students have not understood the subject matter. Therefore, answers provide an important tool to make necessary changes in the teaching-learning process.

Classification of answers. A close analysis of the various types of answers shows that these can be put under the following six categories:

(i) Right and correct answers.

(ii) Correct but incomplete.

(iii) Partially correct and partially wrong.

(iv) Wrong but intelligent.

(v) Ridiculously wrong.

(vi) Mischievous.

How to deal with answers. No hard and fast rule can be laid down for dealing with various categories of answers. Ward and Rascore write in this connection, "There are no rules. It is unwise to pass over all wrong answers

as it is unwise to deal with all. Some are genuine misconceptions, which the teacher must clear up at that time or later on, others are imperfect and incomplete answers, genuine also, which must be rounded off, others are haphazard or stupid and should be treated with contempt or else with such brief but emphatic words of disapproval as the teacher may have a command." The following are the different ways of dealing with answers.

1. Appreciation. The teacher should in general appreciate the answers of the students as appreciation will encourage the students to think further. Even if the answers are wrong but teacher feels that the child is making genuine attempts, due appreciation should be given.

2. Analysis of wrong answers. When the answers given by most of the students are wrong, the teacher should try to analyze their causes. The causes may be as under:

(i) Defective or difficult language used by the teacher.

(ii) Defective explanation of the subject matter taught.

(iii) Inattentiveness on the part of the students.

(iv) Lapses of memory.

(v) Toughness and complexity of the subject matter.

In such cases, the teacher should accept the responsibility and should not feel shy of teaching the subject matter again.

3. Encouragement of children. When the answers are partly right and partly wrong, the students should be encouraged to analyze themselves the nature of their mistake. The teacher may ask further questions to analyze the nature of the mistake. When all the factors which are responsible for wrong answer, or answers are not clear to all the students, they may be asked to build up the real answers once again. It is unwise on the part of the teacher to be impatient and to make the necessary completion or correction himself.

4. Treatment of wrong answers. When a particular student gives a wrong answer, the teacher should not pass on till he gets the right answer without explaining why the first answer is wrong. The child must be made to understand why his answer is wrong. He is not likely to gain anything from the right answer if his doubts remain unexplained.

5. Answers carrying some version, other than expected by the teacher. The teacher should accept and appreciate correct and complete answer although it may differ from the answers as expected by the teacher. There are a few intelligent students in every class who believe in novelty and do a lot of extra reading. The difference in approach should be explained by the teacher.

6. The form of the answers according to the nature of the lesson. Whether the answer should be in bits or incomplete sentences depends upon the nature of the lesson. Complete sentences may not be insisted upon in arithmetic, science and in some cases in history or geography. But in a language lesson where the aim is to develop the power of expression, the teacher should insist upon complete sentences. No general rule can be laid down. It is up to the teacher to decide the form of the answer. But it must be stressed that whatever be the form, answers should be in a clear, simple and concise language.

7. Answers based on right understanding. The teacher must make sure that the answers as given by the students are really based on genuine mental activity. Parrot fashion words, though they may have sense, are bot based on any thought or understanding on the part of the child. The teacher must go deeper and ensure that the child really knows what he says.

8. Answers given in unison. Answers given in unison should be discouraged. Such answers lack educational value and, therefore, should

be disallowed. Assertive students should not be allowed to usurp the right of others who are slower or are perhaps making a mistake. Students should not be allowed to interrupt others while they are answering questions.

9. Observance of courtesy. The teacher should see that the ordinary courtesy is observed in answering questions. The students should stand or sit and address in the proper way.

10. Encouragement to shy and submissive students. There are always some students who feel shy and become nervous when questions are put to them. Though they know the answers quite all right, yet they remain mum. The teacher should, in all such cases, give more encouragement and appreciation.

11. Repetition of good answers. Good answers of the students should be referred to the class, got repeated, preferably by another pupil. The teacher should avoid to repeat a correct answer himself, unless he wants it to be specially stressed.

12. Discouragement to irrelevant answers. The students should be made to realize the cause of the irrelevant answer. The teacher should analyze thoroughly whether the irrelevant answer is due to some mischief on the part of the student.

13. Development of the summary of the lesson with the help of the answers. The answers given by the students at the recapitulatory stage may be used to develop a summary of the lesson. All the answers in brief may be written on the blackboard and the students encouraged to develop an integrated summary with the help of these answers.

Conclusion. Correct, clear and thoughtful answers result from clear and thought provoking questions. The better means of evoking responses

from the students are sympathy, patience and encouragement rather than impatience, harshness or snubbing them. Right and correct answers imply that the teacher is using right and correct methods of teaching and the students are learning in an appropriate manner. It may, therefore, be concluded that the pupil's answers to the questions are equally important if not more than the questions of the teacher in teaching-learning process.

Questions properly planned, carefully worded, evenly distributed, scientifically and psychologically asked, honestly answered and intelligently followed up are very profitable and in fact indispensable in the effective teaching-learning process. Colvin gave recognition to questioning in these words, "The efficiency of instruction is measured in a large degree by the nature of the questions that are asked and the care with which they are framed. No teacher of elementary or secondary school subjects can succeed in his instruction if he has not a fair mastery of the art of questioning."

SKILL OF PROBING QUESTIONS

The term probing implies going deep in the matter in hand. It is defined as the art of response management comprising a set of behaviors or techniques for going deep into student's responses with a view to elicit the desired responses. N.K. Jangira and his associates (1980) name the skill of probing questions as the skill of response management on account of its emphasis on the ways and means of response management.

The skill of probing questions comprises the following component behaviors or techniques:

1. Prompting.
2. Seeking further information.
3. Refocusing.

4. Redirection.

5. Increasing critical awareness.

Prompting. In the teaching-learning situation, prompting refers to the cues or hints provided by the teacher through well-defined questions to the students for arriving at the desired response from the undesired situations like no response, incorrect, partially correct or incomplete sentences. It may be noted that here the teacher himself does not provide the answer to the questions asked in the classroom by him or any student but tries to manage the situation by giving cues.

The selection of specific prompt (cues or hints or restructuring or phrasing of the question) in a particular situation depends upon factors like previous experience of the students, ability of the students to manipulate the relevant facts, concepts or principles, logical consistency of the response and the level of maturity, etc. of the students.

Seeking further information. For seeking further information from the students, questions like ‘give some examples’, ‘make it more clear’ by giving some evidence, are often asked.

Refocusing. In refocusing, the teacher asks the responding student either to relate his response with something already studied by him or to consider implications of his response in a more complex and novel situation.

Redirection. This technique is generally used in a 'no response' or 'incomplete response' situation and requires putting or redirecting the same question to several students for eliciting the desired response.

Increasing critical awareness. This technique is applied in a correct response situation to increase critical awareness in the students. Questions like, How would you justify it? Why do you assume so? How does it

happen? are helpful in asking the responding student to justify his response for the purpose of increasing critical awareness in him.

PROBLEMS AND QUESTIONS

1. Explain the meaning and significance of fixing devices. Name anyone device and elucidate in detail its purpose and method of use.

2. What is the value of drill in teaching? How will you plan it to achieve best results from it?

3. “Practice makes perfect.” Explain this statement.

4. "The review connotes not a mere repetition of facts to fix them more firmly in mind but rather a new view of these facts in a different setting that results in new understanding, changed attitudes, or different behavior patterns." Critically examine this statement.

5. Differentiate between drill and review.

6. "A teacher who never questions, never teaches." Explain the significance of this statement.

7. "The success of class teaching depends mainly on the art of questioning that the teacher has developed." Discuss.

8. "The art of questioning is the very soul of teaching." Comment.

9. Explain the nature and function of good questioning at the different stages of a lesson, giving examples.

10. "One who questions faultlessly teaches effectively." Discuss.

11. "Greater efficiency in managing the questioning, is secured by adherence to certain well-defined rules and standards." What are these rules and standards? What points should be kept in mind in .connection with pupils' responses to questions?

12. "Pupils' questions are equally important as teacher's questions." Explain the significance of this statement.

13. "Pupils' answers to the questions are more important than the questions of the teacher in teaching-learning process." How far do you agree with this statement? What should be the teacher's attitude to pupils' answers?

14. "Too much continuous talking on the one hand and discursive questioning on the other should be avoided." Explain.

15. Is questioning a one-way traffic- that is the teacher questioning the pupils always, or there is a place for the pupils to question the teacher? Explain.

Reference

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