UNIT – IX: MODELS OF TEACHING

*Unit 9: **Models of Teaching** : Models of Teaching-Meaning and elements and families of models of teaching-Information processing models(Concept Attainment and Advance organizer models), Social interaction models(Jurisprudential model) – Personal development model(Non-directive teaching) – Behavior modification model(Contingency Management)*

"**Every teacher wishes to be an excellent one. But each falls somewhat short of his aspirations . . . There are varied reasons for this gap between a teacher's desired excellence and actual performance. In some cases the gap is caused by an inability to maintain order in class. But often poor teaching is due to a lack of skill in selecting and using teaching models and methods (techniques)**".

- R.Murray Thomas & Sherwin G. Swartart

INTRIDUCTION

The teaching has multiple meanings. Teaching is a powerful and meaningful process. It is a bi-polar process the one pole is teacher and another is pupil. The teacher brings desires changes in the behaviour of the pupils by the influence of his own personality and the pupil is influenced by following him. The process goes on between teacher and the pupil in this process, the effort of the teacher is called teaching and the task performed by the pupil is termed as learning. Theories of learning and development have some implications in the classroom teaching. A teacher can always act upon these theories for teaching children in the classroom. But these theories are sometimes inadequate for the development of a theory of teaching and maximising learning on the part of pupils. Further it is mentioned that theories of learning and development are descriptive in nature. A theory of teaching, on the other hand is prescriptive. It is prescriptive in the sense that it sets forth rules concerning the most effective ways of helping children to achieve knowledge skills etc. A theory also provides a yardstick for evaluating any particular way of teaching. A theory of teaching must attempt to set forth the best means of maximising learning on the part of children. Theories of learning describe the process of learning. A theory of teaching on the other hand sets forth the rules for improving pupil's learning.

The need for a theory of teaching does not imply that theories of learning and development are irrelevant to a theory of teaching. Both of them are closely related. A theory of teaching cannot however, be treated just as a mirror image of the theories of learning. But it needs to be congruent with those theories of learning and development to which it subscribes. A number of instructional strategies to realise different instructional goals have been developed recently by different researchers. The work done by Joyce and Weil (1980) is monumental in this area. They have transformed existing knowledge in the learning and teaching processes into 'Models of Teaching' which can be used by teachers in the teaching, learning process for realising different instructional objectives. These teaching strategies show that there is no single best way to teach everything, but different strategies are required to realise different instructional goals. These prescriptive teaching strategies which help to realise specific instruction goals are known as 'Models of Teaching'. Bruce Joyce and Marsha Weil describe a Model of Teaching as a plan or pattern that can be used to shape curricula, to design instructional materials and to guide instruction in the classroom and other settings. Models of Teaching are really models of learning. As we helps students acquire information ideas skills, values, ways of thinking, and means of expressing themselves, we are also teaching them how to learn. In fact the most important long term outcome of instruction may be the students' increased capabilities to learn more easily and effectively in the future.

Teaching is not just to sit on an armchair with a cup of tea in hand to sip. It is an art and skill to be learnt. It requires the knowledge of subject content, method, techniques and teaching aids to be used for making teaching interesting and effective. This is the main objective of education. For this purpose, the teachers need a variety of approaches. Several models of teaching have been developed out of which Bruce Joyce and Marsha Weil's (1980) have been to be very effective. They described model of teaching as a plan or pattern that can be used to shape curricula (long-term courses of studies), to design instructional materials and to guide instruction in the classroom and other settings

MEANING OF TEACHING MODEL

A model is a plan or pattern that can be used to shape curricula, to design instructional materials and to guide instructions in the classroom and other setting. Model of teaching is just a blueprint designed in advance for providing necessary structure and direction to the teacher for realising the stipulated objectives.

The teaching model may be describes as some sort of guidelines, plan or techniques or strategies designed to achieve specific educational objectives. They differ from general teaching techniques and strategies in the sense that they are designed to meet specific objectives or goals. They help a teacher in his task in the same way as a constructed model or blueprint helps an engineer in his project. Therefore, the aim of any model of teaching is to improve the instructional effectiveness as well as to improve the shape of curriculum.

Models of teaching have been developed to help a teacher to improve his capacity to reach more children and create a richer and more diverse environment for them. Model of teaching consists of guidelines for designing educational activities and environments. It is meant for creating suitable learning environments. In other words, "Models of teaching" describe teaching, as it ought to be. Models of teaching, therefore, have been developed to help a teacher to improve his/her capacity to reach more children and create a richer and more diverse environment for them.

Further, teaching model are just instructional designs. They describe the process of specifying and producing particular environmental situations which cause the student to interact in such a way that specific change in his behaviour.

DEFINITIONS OF TEACHING MODEL

"Teaching models are just instructional designs. They describe the process of specifying and producing particular environmental situations which cause the student to interact in such a way that specific change occurs in his behaviour."

"Model of teaching can be defined as instructional design which describes the process of specifying and producing particular environmental situations which cause the students to interact in such a way that a specific change occurs in their behaviour."

- Joyce and Weil (1972)

"Teaching models are prescriptive teaching strategies designed to accomplish particular teaching goals".

- Paul D. Eggen, et al (1979)

"Modeling is an individual demonstrating particular pattern which the trainees learn through imitation".

Allen and Ryan (1969)

"A model of teaching consists of guidelines for designing educational activities and environments. Model of teaching is a plan that can also be utilized to shape courses of studies, to design instructional material and to guide instruction".

- B.K.Passi l.C.Singh and D.N.Sansanwal (1991)

"A model of teaching is a set of inter-related components arranged in a sequence which provides guidelines to realize specific goal. It helps in designing instructional activities and environmental facilities, carrying out of these activities and realization of the stipulated objectives."

N.K. Jangira (1983)

"To confirm in behaviour, action and to direct one's action according to some Particular design or ideal."

H. C. Wyld

"The term model is used to mean a teaching episode done by an experienced teacher in which a highly focused teaching behaviour is demonstrated".   **White (1972)**

In this way, the teaching models are the basis and the first step for the indoctrination of the theory of teaching. In every model, such situations are created in which an interaction of pupils occurs causing the achievement of the objectives by bringing about changes in the behaviour. It is to be observed that in each teaching model, a comprehensive and specific outline of teaching is prepared.

Nature of Models of Teaching:

> Prescriptive strategies to guide planning and instruction

> Supported by research based-evidence

> Detailed overview of how to teach

> Role of instructor

> Type of classroom structure

> Ways teacher supports student efforts

> Provide common language to discuss facets of instruction common across all classrooms among administrators and teachers.

> Increases probability of learning certain skills/knowledge.

> Promote awareness about how individuals and collective faculty teach.

> Helps students learn how to learn.

CHARACTERISTICS OF A MODEL OF TEACHING

There are some common identifiable characteristics of all models of teaching which are as follows:

1. **Scientific Procedure:** A model of teaching is based on a systematic procedure to modify the behaviour of the learner. It is not a haphazard combination of facts.

2. **Specification of Learner Outcome:** All models of teaching specify what the students will perform after completing an instructional sequence.

3. **Specification of Environment:** A teaching model specifies in definite terms the environmental conditions under which a student's response should be observed.

4. **Specification of Criterion of Performance:** A model of teaching specifies the criterion of performance which is accepted from the students. The behavioural outcomes which the learner would demonstrate after completing specific instructional sequences are delineated in the teaching models.

5. **Specification of Operations:** All models of teaching specify the mechanism that provides for the reaction of students and interaction with the environment.

ROLE OF MODELS OF TEACHING

Models of Teaching serve the following purposes:

- They assist teachers to develop their capacities to create conducive environment for teaching.

- They help curriculum planners to plan learning activities and curriculum which provides a variety of educational experiences to a learner.

- They assist producers of materials to create more interesting and effective instructional materials and learning source.

- They stimulate the development of new educational innovations which may replace the schools of today.

- They may help in the formation of a theory of teaching.

- They help to establish teaching and learning relationship empirically.

- Teaching models are useful to develop social efficiency, personal abilities, cognitive abilities and behavioural aspects of students.

Effects of teaching by modelling

Models of Teaching are really models of learning. As we helps students acquire information ideas skills, values, ways of thinking, and means of expressing themselves, we are also teaching them how to learn. In fact the most important long term outcome of instruction may be the students 'increased capabilities to learn more easily and effectively in the future ,both because of the knowledge and skills they have acquired and because they have mastered learning processes.

According to Joyce and Weil, Each model results in two types of effects Instructional and Nurturing.

A- Instructional effects are the direct effects of the model which result from the content and skills on which the activities are based.

B- Nurturant effects are those which are implicit in the learning environment.

They are the indirect effects of the model.

Bandura and Walters have formulated three kind of effect in teaching by modelling:

1- Modelling effect- The learner acquires new kind of response pattern.

2- -Inhibitory and disinhibitory effect- The learner increases or decreases the frequent, latency or intensity or previously required responses.

3- Eliciting effect- The learner receives from a model merely a cue for realising a response.

Modelling effect can be seen when a teacher demonstrates to a student how to hold a pencil or write capital A and thus shows a new behaviour. Through modelling the teacher lets the student know that it is not permissible of obscene nature in art book. The eliciting effect takes place when through modelling; a teacher tries to teach students to get up when he enters the room. Thus it provide a cue eliciting a response neither new nor inhibited. Gagne feels that learning through imitation seems to be more appropriate for tasks which are a little cognitive in nature.

Utility of Teaching Models in Teaching

- Teaching models are useful in developing social efficiency, personal abilities, cognitive abilities and behavioural aspects of the students. It helps in selecting and stimulating situations which causes the desirable changes in students

- Teaching models help to establish teaching and learning relationship empirically. It helps in making the teaching more effective.

- Teaching models helps in providing a theoretical rationale to the teaching, which will provide changes and rectifications in teaching.

- Teaching models stimulates the development of new educational innovations in teaching strategies and tactics, which may replace the existing ones in schools of today.

- Teaching models assist makers of materials to create more interesting and effective instructional materials and learning sources.

- Teaching models assist teachers to develop their capacities to create conductive environment for teaching, as its nature is practical.

- Teaching models help curriculum planners to plan learning activities and content material which provide a variety of educational experiences to learners.

- Teaching model evaluates the behaviour of the students. For this important task, it presents such a criterion with the help of which the changes in the students behaviours can be easily evaluated.

Elements of Teaching Model:

Normally majority of teaching models are based on the following six elements:

Focus

Focus is the central aspects of a teaching model. Objectives of teaching and aspects of environment generally constitute the focus of the model. Every teaching model is based on one or the other objective as its focal point. Any teaching model is developed by keeping this focal point in mind. Every teaching model differs from another in terms of its objectives. It is the nucleus of a teaching model. Every model is developed by keeping in view its focal point or objective. Every model has various phases; some particular types of competencies are developed by it.

Syntax

Syntax of the model describes the model in action. Syntax includes the sequences of steps involved in the organization of the complete programmed of teaching. It is the systematic sequence of the activities in the model. Each model has a distinct flow of phases. It means the detailed description of the model in

action. In it, the teaching activities and interactions between a pupil and the teacher are determined .The syntax of any teaching model means those points which produce activities focused on educational objectives at various phases. Under syntax, the teaching tactics, teaching activities and interaction between a student and the teacher are determined in such a pattern of sequence that the teaching objectives are achieved conveniently by providing desirable environmental situations.

Principles of Reaction

Principles of Reaction tell the teacher how to regard the learner and to respond to what the learner does. This element is concerned with the way a teacher should regard and aspects respond to the activities of the students. These responses should be appropriate and selective. They provide the teacher with rules of thumb by which to select model, appropriate responses to what the student does. This element is concerned with the teacher's reaction to the student's responses. In it, he comes to know that how he has to react to the responses of the students and has to see whether the learners have been actively involved in the process, or not.

The Social System

This element is concerned with the activities of pupil and the teacher and their mutual relationships. Every teaching model has separate objectives and will have therefore separate social systems. It is related with the interactive roles and relationship between the teacher and the student, and the kinds of norms that are observed and student behaviour which is rewarded. The Social System describes the role of and relationships between the teacher and the pupils. In some models the teacher has a dominant role to play. In some the activity is centred around the pupils, and in some other models the activity is equally distributed. This element is based on the assumption that every class is a miniature society. In it also discussed the selection of motivating strategies and tactics for the students. Naturally social system occupies a central position in making the teaching impressive and successful in relation to the previously selected objectives. .

Support system

Support System describes the supporting conditions required to implement the model. 'Support' refers to additional requirements beyond the usual human skills, capacities and technical facilities. The support system relates to the additional requirements other than the usual human skills or capacities of the teacher and the facilities usually available in the ordinary classroom. Teacher requirements refer to special

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skills; special knowledge of the teacher and special audio-visual material like films, elf-instructional material, and visit to special place etc. This includes books, films, laboratory kits, reference materials etc. It means the additional requirements beyond the usual human skill, capacities and technical facilities. In it, the evaluation is done by oral or written examination, whether the teaching objectives have been achieved or not. On the basis of this success or failure, clear idea is achieved regarding the effectiveness of strategies, tactics and techniques used during teaching.

Application

It is an important element of a teaching model. It means the utility or usage of the learnt material in other situations. Several types of teaching modes are available. Each model attempts to desirable the feasibility of its use in varying contexts related with goal achievements in terms of cognitive and affective behaviour modification.

Why do we use models of teaching?

- Meet learning needs of heterogeneous groups.

- Varied outcomes, different levels of sophistication.

- Repertoire of approaches.

Uses of Models of Teaching:

Teacher Benefits:

➤ Improves the quality of instruction. q

➤ Systematic approach to planning for instruction.

➤ Facilitates awareness about students' learning needs.

➤ Assess impact of instruction.

➤ Offers alternative ways of representing content/skills.

➤ Develop learning experiences that yield successful outcomes.

➤ Facilitates student engagement in more meaningful ways.

➤ • Explicit use of teaching models can accelerate rate of learning, capacity and facility in learning.

Student Benefits:

- Increases aptitude for learning and retention.

- Learn more rapidly.

- Facilitates different kinds of learning.

- Builds academic self-esteem.

- Acknowledges characteristics and aptitudes.

- Promotes student awareness of how they will be taught and what changes are sought.

General teaching model (Robert Glaser, 1962):

It is termed as basic or general because it tries to explain the whole teaching process by dividing it into four basic components namely,
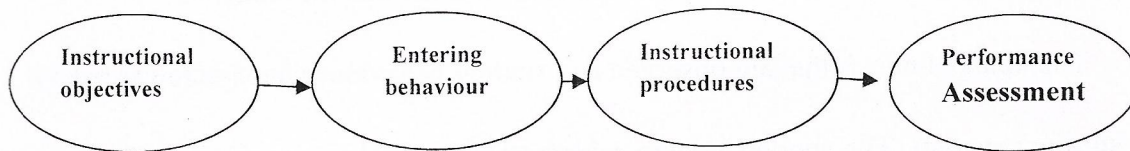
Components of Teaching Process in General Teaching Model.

1. **Instructional objectives:** Instructional objectives indicate the stipulated goals that a student is expected to attain after the completion of a part of instruction. These are usually based on Bloom's taxonomy of objectives.

2. **Entering behaviour:** Entering behaviour implies the initial behaviour of the student before beginning of instruction. The assessment of the entering behaviour is an important aspect of the instructional process.

3. **Instructional procedures:** Instructional procedures represent the teaching methods, strategies and student – teacher interaction patterns involved in teaching. Instructional procedures are guided by the nature of the instructional objectives and the entering behaviour.

4. **Performance Assessment:** Performance Assessment involves the extent to which the stipulated objectives have been fulfilled. It involves the use of suitable evaluation techniques like tests, observation etc. It serves as a feedback devices for each of the steps and elements of the teaching process.

5. As a matter of fact, all these four basic components of the teaching process interact and influence each other. One sets the base for the other by providing as a base or feed-back for successful operation of the teaching act.

Fundamental Elements of a Teaching Model:

A teaching model has six fundamental models;

a. **Focus:** is the central aspect of a teaching model. Objectives of teaching and aspects of the environment generally constitute the focus of the model.

b. **Syntax:** includes the sequence of steps involved in the organisation of the complete programme of teaching.

c. **Principle of reaction:** This element is concerned with the way a teacher should regard and respond to the activities of the students. These responses should be appropriate and selective.

The social system. It is related to the description of the following;

i. Interaction role and relationships between the teacher and the students.

ii. The kinds of norms that are observed and student behaviour which is rewarded.

The support system. The support system relates to the additional requirements other than the usual human skills or capacities of the teacher and the facilities usually available in the ordinary class-room. These requirements refer to special skills, special knowledge of the teachers and special audio-visual materials etc.
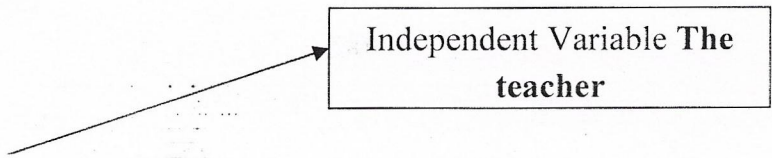
d. **Applicability of the model:**

Being quiet systematic and structured, this model is applicable to almost all learning-teaching situations.

This basic or general model indicates that teaching includes a wide range of decision and practice and much of which requires little or no personal contact between the teacher and student. It implies a greater emphasis on the competency of the teacher than on his personality.

Structure of Teaching (Anatomy)

Teaching is an integral post of the process of education. It is a system of actions intended to induce learning. It is special function is to import knowledge, develop understanding and skills. In teaching an interaction occurs between the teacher and the students, by which the students are diverted towards the goals. Thus the sole element of teaching is the mutual relationship or interacton between the teacher and the students which advances the students towards the goals.

Teaching can be considered as the art of assisting another to learn by providing the information and appropriate situation, conditions or activities. The process by which one person helps other in the achievement of knowledge skill and aptitudes. Teaching consists of three variables, which operate in the phases of teaching and determines the nature and format of learning conditions or situations.

Independent Variable **The teacher**

These are classified under:

1. **Teacher as an independent variable:**

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

2. **Students as 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.

3. **Content and methodology of presentation as intervening variables:**

   The intervening variables lead to interaction between the teacher and the students.   The content determines the mode of presentation – telling, showing and doing etc.

Families of Model of Teaching

Educators, Psychologists, Sociologists, System analysts, Psychiatrists and many others have developed theoretical positions about teaching and learning. A number or **educationists have developed Models of Teaching from different sources such as classroom situations, research in psychology and training, therapies and theories. But Bruce Joyce and Marsha Weil brought about the revolutionary changes in Instructional strategies. Joyce and Weil grouped the models that they have discovered on the basis of their chief emphasis – the ways they approached educational goals and means.**

Models of Teaching are designed for specific purposes-the teaching of information concepts, ways of thinking, the study of social values and so on., by asking students to engage in particular cognitive and social tasks. Some models centre on delivery by the instructor while others develop as the learners respond

to tasks and the student is regarded as a partner in the educational enterprise. However all mature Models emphasize how to help students learn to construct knowledge-learning how to learn including learning from the sources that are often stereotyped as passive, such as learning from lectures, films, reading assignments, and such.**"Quite a number of Models of Teaching are designed to increase students' ability to process information more powerfully.**These include methods for presenting information .so that students can learn and retain it more effectively by operating on it more conceptually, systems that assist memorization and teach students to collect and organise information conceptually ,and ones to teach students to use the methods of disciplines, to engage in causal reasoning and to master concepts"(Joyce and Weil,1997:39).

As per as the families of models concerned, there exists a huge variety of teaching models arising from a variety of sources representing different frames of references towards educational goals and methods.

Eggen, Kauchar and Harder (1979) have discussed six families of teaching models are Information Processing Models -General Inductive Model, Concept Attainment Model, Taba Model, General Deductive Model, Ausubel's Model and Such man's Inquiry Model. **The most comprehensive review of teaching models is that of Joyce and Weil (1980) who has identified 23 models which are classified into four basic families based on the nature, distinctive characteristics and effects of the models. All the four families of models of teaching are entirely different from one another and each of them stresses on different instructional goal. These four families of models of teaching are:**

1. Information Processing Models

2. Personal Models

3. Social Interaction Models and

4. Behaviour Modification Models.

Within the families, there are specific models which are designed to serve particular purposes.

1. LNFORMATION PROCESSING MODELS

The term information processing has been introduced by Joyce and Weil. In their words *"Information processing refers to the ways people handle stimuli from environment, organise data, sense problems, generate concepts and solutions to problems, and employ verbal and non-verbal symbols".*

Information processing models are more concerned with the intellectual growth rather than the emotional or social development of the individual. These models focus on intellectual capacity. They are concerned with the ability of the learner to observe, organise data, understand information, form concepts, employ verbal and nonverbal symbols and solve problems. The primary purposes are:

1. The mastery of methods of inquiry

2. The mastery of academic concepts and facts

3. The development of general intellectual skills such as the ability to reason and think more   logically

The models which belong to this family are:

- The Concept Attainment Model
- Taba InductiveThinking Model
- Inquiry Training Model
- The Advance Organiser Model
- The Memory Model
- Cognitive Growth Model
- Biological Science Inquiry Model.

CONCEPT ATTAINMENT MODEL

Family : Information Processing Models

Major Theorist : Jerome Bruner.

Helping children learn concepts efficiently is a fundamental purpose of schooling. However most educators did not consciously distinguish the learning of concepts from other types of learning. Today researchers have dwelled in to the meaning of concepts, the process of acquiring them and conditions that facilitate effective learning of concepts. The work of Jerome Bruner (1956) in this area is noteworthy. His method of concept attainment has been shaped into a model of teaching by Bruce Joyce and Marsha Weil(1980). There are three variations of the Concept Attainment Model (CAM).

1. Reception Oriented Model,

2. Selection Oriented Model and

3. Unorganised Model of Concept Attainment

What is a Concept?

Concept is a mental representation or a mental picture of some object or experience. It represents a category of objects which share common properties. According to Archer (1969) a concept is simply the label of a set of things that have something in common. A concept is different from a fact, a principle and, generalisation. Elements of a Concept Each concept have a set of elements. A concept is attained when all the elements of the concept are correctly identified and learnt. The following are the elements of a concept.

1. Name is the term or label given to a category. Fruit, Apple, Square are all names given to a range of objects, configurations etc.

2. Attributes The features characteristics of objects are called attributes. Every concept has two types of attributes.

a. Essential Attributes are the common features or characteristics of the concepts. These attributes should be present in all the examples of the concept.

b. Non-Essential Attributes, some of the slight differences among examples of a category reflect the non-essential attributes.

3. Examples Most of the concepts have more than one example. Examples of a concept have all the essential attributes of the concept present in them. The non-essential attributes are present in some examples and absent in others. Bruner refers to those examples which contain all the essential attributes in them as positive exemplars. The absence of one or more essential attributes makes an instance a negative exemplar of the concept. In concept formation, examples of a concept are grouped together, in concept attainment the positive and negative examples are tested and searched for their features. The positive exemplars represent what the concept is. By arranging the exemplars sequentially, the students can reach a conclusion of what the concept is.

4. Definition : The last element of a concept is the rule. A rule or definition is a statement specialising the attributes of a concept. It is a device for summarising the findings of the search for attributes. A correct rule or statement merely reflects successful utilisation of the other elements of a concept - positive and negative examples, and essential and non-essential attributes.

When a learner can

identify the positive examples of a concept from the negative examples on the basis of essential attributes.

Distinguish between the essential and non-essential attributes in the positive examples of the concept and define the concept in terms of its attributes we say that the learner has attained the concept.

Concept learning involves double discrimination

1. discrimination of relevant (essential) characteristics of positive examples from the relevant (essential) characteristics of negative examples.

2. discrimination of relevant (essential) attributes from the irrelevant (non- essential) attributes of the positive examples.

Modality of the Exemplars

"Modality refers to two features -the medium and size of the exemplars. There are three basic types of media-objects, pictures (still or motion) and words or symbols. The choice of media can facilitate or hinder the concept attainment process. Selection of medium depends on the concept and its attributes. Size refers to the complexity of the unit of the exemplar. According to developmental psychology modality of learning should be concrete at the beginning state, advanced as still or motion pictures and gets on the more advanced stage as symbolic material" (Weil and Joyce)

Types of Concepts

Bruner identified three types of concepts: Conjunctive, disjunctive and relational. "Conjunctive concepts are defined by the joint presence of several attributes. Disjunctive concepts require the presence of some attributes and the absence of others. Relational Concepts have several attributes but these bear some kind of relationship to one another" (Weil and Joyce)

Variations in CAM

There are three variations or models in concept attainment that have been built from the basic study of Bruner and his colleagues. Each has a slightly different syntax but all are developed from a common conceptual base.

I. Reception Oriented CAM

In this model, the students are more receptive than active. The teacher has a more dominant role, acts as a recorder, keeping track of the hypotheses and supplies additional examples. This model is more direct in teaching students the elements of a concept and their use in concept attainment.

2. Selection Oriented CAM

This model places responsibility of concept attainment and attribute tracking in the hands of the students. An example is not labelled until the student asks whether it is a 'Yes,' or 'No'. Student controls the

sequence of the examples. The tracking and analysis of attributes is not as formal in this model as in reception model. This model leads to a quicker attainment of the concept.

3. Unorganized Materials Model

This model is much more a group discussion than an instructional game, like the reception and selection strategies. The teachers' role is to facilitate discussion and ensure that it focuses on the development of a concept in the material.

DIAGRAM OF CAM

I. The Syntax of the Model

As said earlier although there are three variations of the Concept Attainment Model, only two variations viz., 'Reception Oriented -CAM' and 'Selection Oriented –CAM' are discussed in this section. The reception model is more direct in teaching students the elements of a concept and their use in concept attainment. The selection model permits students to apply this awareness of conceptual activity in a more active context, one that permits their own initiation and control.

Syntax of the Reception Model of Concept Attainment

There are three phases in the reception model of concept attainment. The activities in each phase are as follows : (Bruce Joyce and Marsha Weil, 1997:173)

Phase one:

Presentation of Data and Identification of Concept Teacher presents labelled examples. Students compare attributes in positive, negative examples Students generate and test hypothesis Students state a definition according to the essential attributes

Phase two:

Testing Attainment of the Concept. Students identify additional unlabelled examples as Yes or No. Teacher confirms hypothesis, names concept and restates definition according to essential attributes Students generate examples.

Phase three:

Analysis of Thinking Strategies.

Students describe thoughts

Students discuss role of hypothesis and attributes

Students discuss type and number of hypotheses.

In the first phase of the reception model, the teacher presents positive and negative examples in the pre-determined sequence. This data may be in the form of pictures, anecdotes, sketches, diagrams, events or any other illustrations.

The pupils are told that there is one idea in common in all the positive examples and that they have to compare and justify the attributes and form some hypothesis about the concept.

When the pupils have analysed the examples and hypothesised, the teacher asks the students to state a definition according to the essential attribute.

In phase two, the teacher presents unlabelled examples. The students identify them as positive or negative. The teacher asks for reasons and confirms their hypothesis. When she knows that the students have attained the concept, she names the concept. She does not ask the students to name it because they are not familiar with the name of the concept. Only when the students have already attained the concept (Prior to the CAM lesson) and the teacher uses the model for concept clarification she may ask the students to name the concept.

To test the attainment of the concept further, the teacher asks the pupils to generate examples and label them as positive and negative instances of the concept.

In the third phase of the model the teacher analyses the thinking strategies employed by the students. The students report their pattern of hypothesizing, whether they focussed on attributes or concepts, whether they did so one at a time or several at , once, and how they changed their hypotheses when it was not confirmed.

Thinking Strategies

In the reception oriented model, mainly two kinds of thinking strategies are used - wholist and partist.

The wholist strategy is to take the first positive instance of the concept as a whole i.e., comparing all the attributes of the first positive instance to those subsequent instances and modify the hypotheses and

subsequent decision depends on the attributes similarity and difference between the first positive instance and the subsequent ones.

In the partist strategy the choice of a hypothesis is based on only part of the initial-example. If the initial hypothesis is not confirmed then the partist refers back to all prior instances and chooses another hypothesis. Thus a partist begins with the part of the instance maintains the hypothesis till the positive and negative instances confirm, changes hypothesis with positive information and chooses hypothesis not previously made.

DIAGRAM OF STEPS

Syntax of the Selection Model of Concept Attainment

Phase 1 Presentation of Data and Identification of Attributes

> Teacher presents unlabelled examples

> Students inquire which examples are positive, based on the first positive instance given by the teacher

> Students generate and test hypothesis

Phase 2 Testing Attainment of the Concept

> Students identify, additional unlabelled examples

> Students generate examples

> Teacher confirms hypothesis, names concept and restates definition according to essential attributes.

Phase 3 Analysis of Thinking Strategy

> Students describe thoughts

> Students discuss the role of hypothesis and attributes

> Students discuss type and number of hypothesis

> Teacher evaluates the strategies

The procedure under selection strategy begins with the presentation of all the instances representing the various combinations of attributes of a concept. The student is then told by the teacher that some of the examples presented before him illustrate the concept in the mind and the others do not. The teacher begins by showing them an instance that illustrates the concept (a positive example). The pupils' task is to select example from those presented to them, test them one at a time against the first positive example and label

them as positive or negative examples of the concept in the teachers' mind. The pupils may select the examples in any order they choose but one at a time. The pupils thus generate hypotheses, test them and arrive at the definition of the concept.

The second and third phases of the selection model are the same as that of the reception model. Only in the third phase while analysing the thinking strategies the teacher keeps in mind the selection thinking strategies.

Thinking Strategies

According to Bruner and his associates there are four strategies used in selection oriented CAM

1. Simultaneous Scanning

2. Successive Scanning

3. Conservative Focussing

4. Focus Gambiling

The major differences among them are

1. in the use of either attributes or concept hypotheses as a basis of searching

2. in the number of attributes or concept hypotheses held at one time.

A Simultaneous Scanner hypothesizes more than one concept with the first instance and his choice of next instance to test will be determined by the elimination of as many hypothetical concepts as possible instance chosen.

A Successive Scanner forms a concept hypothesis from the given positive instance and then tests it against other examples. The disadvantage here is that there is no assurance of giving maximum information possible. The advantage is the relief from cognitive strain as limited inference is required. The only strain is on memory to keep track of the hypothesis that have been tested and which require further testing.

A student with the **Conservative Focussing** strategy finds a positive instance and chooses instances that alter one attribute at a time. By choosing a particular instance as focus the person decreases the complexity and abstractness of the task of keeping of information he has encountered. Hence there is relatively more cognitive economy.

In the **Focus Gambling** strategy one uses a positive instance as a focus and changes more than one attribute at a time. The strategy makes use of fewer test choices. But there may be equal chances of requiring more test choices and therefore the name focus gambling. There is more risk involved.

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Social System

The model has a moderate structure. The teacher assumes a major role initially in choosing the concept, selecting and organising or sequencing data. The teacher controls action but with subsequent phases student interaction is encouraged. In the reception oriented model, the structure moves from high to moderate. In the selection oriented model it is relatively structured with students assuming more initiative for inductive process.

Principles of Reaction

The model emphasises teacher support during the flow of the lesson with due regard to hypothetical nature of discussion. Pupils should be helped in creating a dialogue in which students test their hypotheses against each other. The teacher should focus pupils' attention on specific features of examples and finally assist the pupils in discussing and evaluating their thinking strategies. The teacher should encourage analysis of the merits of various strategies rather than attempting to seek the one best strategy for all people in all situations

Support System

Well organised reference material is the most essential support required for this model. Carefully selected and organised materials and data in the form of discrete units easily serve as examples.

Effects of the Model

The Concept Attainment Model accomplishes several instructional goals depending on the emphasis of the particular lesson.

Understanding the nature of concepts, specific concepts, improved concept building strategies and inductive reasoning ability etc. are the instructional effects of the model.

The nurturant effects come from experiencing the environment created by the model. These effects are sensitivity to logical reasoning in communication, tolerance of ambiguity (but appreciation of logic) and awareness of alternative perspectives.

THE ADVANCE ORGANISER MODEL

An advance organizer is a very useful tool for teachers to help students understand, retain and remember new learning material. 'Information overload.' What comes to mind when you think of those words? Have you ever experienced information overload when studying for an exam or even just when

sitting in class? Sometimes learning everything that's required can be overwhelming and seem nearly impossible. Even if you are provided with all of the information, it can be hard to remember everything.

This is a challenge that teachers face regularly. We must provide our students with large amounts of information in a way that helps them understand retain and remember it. There are a number of strategies that teachers use to do this, but the one we'll discuss in this lesson is the use of advance organizers.

An **advance organizer** is a tool used to introduce the lesson topic and illustrate the relationship between what the students are about to learn and the information they have already learned. They are used during **expository instruction**, which is the use of an expert to present information in a way that makes it easy for students to make connections from one concept to the next.

By using an advance organizer to link the new information to old information, the new information can be remembered more easily. There are three basic purposes of advance organizers. First, they direct students' attention to what is important in the upcoming lesson. Second, they highlight relationships among ideas that will be presented. Third, they remind students of relevant information that they already have.

An advance organizer is not a summary or review of a previous lesson. It also doesn't provide a structure for the current lesson. Instead, it provides a structure for student thinking. It acts as a conceptual bridge from the old information to the new information. A person's existing knowledge about a concept is the most important factor in whether new material will be meaningful and how well it can be learned and retained.

Advance Organizer Model is based upon the Learning Theory of Meaningful Verbal Learning formulated by David P Ausubel, an unusual educational theorist. The theory of Meaningful Verbal Learning applies to situation where the teacher plays the role of lecturer or explainer. The main purpose is to help students acquire subject matter.

2. PERSONAL MODELS

This family of models is also concerned with realization of the instructional goals belonging to affective domain. The personal development models emphasize the processes by which individuals can establish productive relationship with their environment and design their unique individuality for realizing the personal goals. Frequently, they focus on the emotional life of an individual and ultimately aim for the development of an integrated functioning self.

Models which belong to this family deal with the individual and the development of self hood. The emphasis of these models is on developing an individual into an integrated, confident and competent

personality. They attempt to help students understand themselves and their goals, and to develop the means for educating themselves. Many of the personal models of teaching have been developed by counsellors, therapists and other persons interested in stimulating individual's creativity and self expression.

The primary goals are:

- ➤ to increase the student's self worth,
- ➤ to help students understand themselves more fully,
- ➤ to help students recognise their emotions and become more aware of the
- ➤ way emotions effect other aspects of their behaviour,
- ➤ to help them develop goals for learning,
- ➤ to help students develop plans for increasing their competence,
- ➤ to increase the students' creativity and playfulness,
- ➤ to increase the students' openness to new experience.

The models which belong to this family are:

- ➤ Non-Directive Teaching Model,
- ➤ Synetics Model,
- ➤ Awareness Training Model,
- ➤ Classroom Meeting Model.

ILL. SOCIAL INTERACTION MODELS

The model belonging to this family are concerned with attainment of the social goals belonging to the affective domain. Consequently, the social interaction models are Weil and Joyce emphasis, *"give priority for improvement of democratic process and the improvement of the society by the improvement of individual's ability."* The models in this family emphasise the relationships of the individual to the society or other persons. The core objective is to help students learn to work together. To identify and solve problems, either academic or social in nature.

The primary goals are:

to help students work together to identify and solve problems

to develop skills to human relations, and

to become aware of personal and social values.

The models which belong to this family are :

a. Group Investigation Model,

b. Role Playing Model,

c. Jurisprudential Inquiry Model,

d. Laboratory Training Model,

e. Social Simulation Model,

f. Social Inquiry Model.

IV. Behaviour Modification Model

All the models in this family share a common theoretical base, a body of

knowledge which referred to as behaviourtheory. The common thrust of these models is

the emphasis on changing the visible behaviour of the learner.

The models which belong to this family are :

a. Contingency Management Model

b. Self Control Model

c. Training Model

d. Stress Reduction Model

e. Desensitization Model

f. Assertiveness Training Model