CHAPTER - I

BACKGROUND OF THE STUDY

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1.1 INTRODUCTION

Teaching is one of the oldest activities in the history of human civilization. Communication of human experiences existed in one form or the other right from the days human beings started to share their experiences with their fellow human beings. But, the systematic way of communicating human experiences began with the establishment of formal institution called 'school'. Since then, the act of communicating human experiences in the formal situation is called 'teaching' and it has become the subject of human inquiry. Educationists, philosophers, psychologists, sociologists, and scientists at different periods of time have tried their best to understand the nature of this human activity called 'teaching'. Based on their observations and experiences, they have defined teaching in various ways. It is worthwhile to examine some of the important definitions and understand the nature of teaching.

1.2 NATURE AND CONCEPT OF TEACHING

Gage (1963) defines teaching,..... " as any interpersonal influence aimed at changing the ways in

which other persons can or will behave". From this definition, it is clear that teaching involves more than one person and the behavioural influence of one person changes the behaviour of others. But it does not specify the persons involved in teaching. The similar kind of stand has been taken by Hough and Duncan (1970), though with a difference. According to them, "teaching is an activity - a unique professional, rational and humane activity in which one creatively and imaginatively uses himself and his knowledge to promote the learning and welfare of others". In their definition, Hough and Duncan have, apart from the involvement of more than one person in teaching act, given teaching the status of a professional, rational and humane activity. Teaching has also been seen by them as a creative and imaginative activity instead of a mechanistic way of influencing human behaviours. However, their definition does not make it explicit the persons involved in teaching.

Flanders (1970) says, "the acts of teaching lead to reciprocal contacts between the teacher and the pupils and the interchange itself is called teaching". From this definition, it is clear that teaching is an activity which involves the teacher and the pupils and the interchange between them is not one way but two-way or reciprocal. Thus, this definition specifies the persons involved in the teaching act which were not present in the preceding definitions, but

does not say about the situation where teaching takes place and the kind of activities which are performed in teaching. These aspects of teaching are reflected in the definition given by Good (1959). In the Dictionary of Education, Good (1959) has given narrow and broad meanings of teaching. According to the narrow meaning, teaching refers to the act of instructing in educational institutions. Under the broad meaning, teaching implies the management by an instructor of the teaching - learning situations including (a) direct interaction between the teacher and the learner; (b) the preactive decision making process of planning, designing, preparing the materials for the teaching-learning conditions; and (c) post-active redirection (evaluation, redesign and dissemination).

From Good's definition, three major ideas emerge. First, teaching is an instructional activity which takes place in educational institutions. Second, it is a managerial activity which is concerned with organisation of teaching-learning situations. Third, it is an interactive process between the teacher and the student which involves preactive decision making activities like planning, designing, preparing the materials for the teaching-learning situations and post-active redirections. Thus, Good (1959) recognised two more important ideas regarding teaching. These are - teaching as a process which has a number of activities and the situation where teaching-learning takes place. Teaching, as a process,

has also been highlighted in the definition of teaching given by Joyce and Weil (1980). According to them, "teaching is a process by which teacher and students create a shared environment including sets of values and beliefs (agreement about what is improvement) which in turn color their view of reality".

In the above definition, a new dimension about teaching is noticed, apart from the recognition of teaching as a process. It stresses teaching-learning environment which is created out of the interaction between the teacher and the students. But, teaching, as a process, is not clear from the definition. A process has always a series of activities which are in a logical sequence. It is important to know whether teaching is a process or not. A study of the four phases of teaching given by Hough and Duncan (1970) makes it clear that teaching is a process which has a series of activities and they take place logically and sequentially. According to them, teaching comprises four phases - a curriculum planning phase, an instructing phase, a measuring phase and an evaluating phase. All these phases have also certain specific activities. The major phases and their respective specific activities have been indicated in Figure 1.1.

Figure 1.1 : The Four Phases of Teaching

Curriculum Planning Phase Phase 1	Instructing Phase Phase 2	Measuring Phase Phase 3
1. Helping to formulate goals of education.	1. Creating intentions regarding the strategies and tactics of instruction.	1. Creating or selecting devices to measure student learning.
2. Selecting and organising the content of instruction.	2. Instructing.	2. Measuring student learning.
3. Stating the objectives of instruction.	3. Obtaining situational feedback about instructing.	3. Organising and analysing data.
1. The appropriateness of objective.	2. The effectiveness of instruction.	3. The validity and reliability of measurement.

Using feedback to evaluate

Evaluating Phase

Phase 4

Source : Hough and Duncan, 1970, Page-13.

From the Figure 1.1, it is evident that teaching acts follow a logical sequence. In the curriculum planning phase, the goals of education are formulated, the content/ curriculum is selected and organised based on the goals of education, and the objectives of instruction are specified. In the second phase, content/curriculum is transacted through the act of instruction and strategies are designed and used to help the students learn. The third phase is the measuring of learning outcome in which measurement devices are created or selected to measure learning outcomes. Data collected from the measurement are organised and analysed. Finally, evaluation based on the measurement of data is done. Human judgement is given regarding the appropriateness of instruction and regarding the validity and reliability of measurement devices or tools to test learning.

A look at the teaching activities described by Hough and Duncan (1970) in the four phases of teaching makes it clear that teaching is a process of a series of activities which take place in a logical sequence. Thus, teaching can be viewed both as an act and as a process. It is viewed as an act in a wholistic sense because a number of activities make teaching a global act. It is viewed as a process because the activities in teaching occur in a logical sequence. From the preceding discussions,it is clear that teaching in the classroom does not take place in a vacuum. It involves certain components which make teaching take place in a classroom. These components may be human, material and skill based.

It is, therefore, important to know about these components.

1.3 COMPONENTS OF TEACHING

There may be three major components involved in the teaching act, i.e. the teacher, the student and the curriculum which includes the strategies or commonly known as methods of teaching. Whereas teacher and student are human components, curriculum/content constitutes material component. Methods of teaching are skill based components. The success of any teaching act depends, to a large extent, on the interplay among these components of teaching. The teacher performs a significant role in planning, organising, leading and controlling teaching with a view to facilitating learning. In a classroom situation, the teacher makes the student act according to the planning and organisation of the teaching activities by him/her. The content and methods of teaching are intervening components which mediate between the teacher and the student and help the interaction occur between them. All these components together create a teaching-learning environment which is geared to achieve instructional objectives.

All the components of teaching play equally important role in the process of teaching. Therefore, educationists and researchers have done extensive studies on all the components of teaching. For example, a number of studies on teacher's

behaviour patterns and their impact on students' achievement have been conducted at the Centre of Advanced Study in Education, M.S.University, Baroda (Jangira, 1972; Quaraishi 1972; Lulla, 1974; Padma, 1976; Roka, 1976; Roy, 1977; and Thomas, 1987). But, a few researchers have shown special interest in methods of teaching. It is because, in any human act, it is the method which determines the achievement of the objectives formulated for the act. Similarly, in the teaching process, the achievement of instructional objectives depends on methods of teaching. Therefore, it is worthwhile to study the nature of methods of teaching. Methods of teaching have been viewed in different ways by philisophers, psychologists, educationists and technologists in different periods of history. It is necessary to study how methods of teaching have evolved at different periods of time.

1.4 METHODS OF TEACHING - A HISTORICAL PERSPECTIVE

The development of methods of teaching is traced back to the methods of literary education followed in ancient Greece and China. Therefore, the most long lived and wide spread set of teaching methods are those associated with the study of language and literature (Singh and Jaimini, 1989). Memorization and analogical reasoning were used as methods of teaching in the ancient literary pattern of education. In ancient Greece, the Socratic technique of teaching i.e. the method of skillful inquiry, was also very popular.

But, the scientific approach to methods of teaching began with the emergence of the personalities like Comenius, Pestalozzi, Froebel and Herbart. Comenius (1592-1670) stressed five major elements in a scientific teaching method : (a) it is the world of sense experience and not the word of teacher or book that should be used as a starting point; (b) "nature" as phenomenon of biological and physical world can contribute significantly to the educational method; (c) the content to be taught should be what the pupils are ready to take according to their mental age and strength (Spiral curriculum); (d) learning should proceed from activity which should be interesting, pleasant and relevant and (e) the teachers should encourage pupils to discover and learn by their own efforts. A similar approach was also taken by Pestalozzi (1746-1827), who emphasized that teaching methods should be in accordance with the development pattern of children's growth. Froebel (1782-1852) followed the same line and stressed the self-activity of child, taking into account the emotional as well as intellectual development of the child. But, Herbart (1776-1841) propounded five instructional activities associated with a teaching method. These are: (i) preparation, (ii) presentation, (iii) association, (iv) assimilation, and (v) application.

Apart from the efforts made by the above mentioned thinkers to perceive the methods of teaching, these were also influenced by behaviouristic, humanistic and cognitive

psychological orientations. Behaviouristic approach to instruction believes in the influence of environment on the learning behaviour of the learners. Among the behaviourists, the most important contribution to methods of teaching has been made by Skinner (1968) who stresses stimulus - response - reinforcement chain as the basis of any kind of learning. This has, later on, given birth to the famous programmed instruction. Humanistic approach to instruction puts stress on the uniqueness of individual learners and the methods of teaching depend on the quality of interpersonal relationship that exists between the learner and the teacher. But, cognitive psychologists differ from these two stands. According to them, mental processes such as thinking, reasoning, and problem solving form the basis of teaching methods.

With the introduction of mass media and other technological gadgets into the teaching - learning process, methods of teaching received technological orientation. In this context, a look at the major developments in pedagogy, identified by Elton (1987), is necessary. These developments are mass communication instruction, individualised instruction and group learning. Mass communication instruction took place owing to the introduction of electronics hardware into the teaching-learning process. For example, the closed circuit television was used to teach classes with large number of students and later on to different classes. The second

development in the field of pedagogy was individualised instruction. The main contribution towards this development is attributed to Skinner (1968). Programmed learning instruction was developed by Skinner (1968). Personalised system of instruction, another form of individualised instruction was developed in 1963 (Keller, 1974). Computer-assisted instruction (CAI), the recent form of individualised instruction, is an extension of programmed instruction and personalised system of instruction. The third development in the area of instruction is group learning methods. These methods became popular due to the failure of the individualised instruction to develop interpersonal skills. Group learning methods are oriented to develop more humanistic skills.

From the preceding discussions, it is clear that methods of teaching have undergone several developments in the history of pedagogy. In ancient Greek and Chinese education, memorization and analogical reasoning were used as methods of teaching. Methods of teaching received scientific orientations with the emergence of the personalities like Comenius, Pestalozzi, Froebel and Herbart. According to them, methods of teaching should be in accordance with the developmental pattern of children's growth. Then, methods of teaching got psychological orientation with the development of different Schools of Psychology, namely, Behaviourism, Humanism and Cognitivism. Whereas Behaviourism emphasised the influence

of environment on the learning behaviour of individual, Humanism and Cognitivism put stress on the uniqueness and thinking of individual respectively. With the introduction of mass media and technological gadgets into the teaching-learning process, methods of teaching underwent technological orientation. Thus, mass communication instruction, individualised instruction and computer-assisted instruction (CAI) came into the picture. In the subsequent section, how models of teaching emerged is being discussed.

1.5 EMERGENCE OF MODELS OF TEACHING

Although methods of teaching have passed through several developments in the history of pedagogy, teachers all over the world including our country follow a fixed ways of teaching in the classroom. It is because the teacher education programme prepares the teacher to follow one of a few fixed ways of teaching such as Herbatian Method or so. Even attempts to integrate micro-teaching skills by Indian researchers into the teaching-learning process to form effective patterns for realizing specific instructional objectives have more or less led to the pre-determined Herbatian Method (Passi, Singh and Sansanwal, 1991). Moreover, following a few fixed ways of teaching failed to achieve a variety of instructional objectives for which teaching is designed and performed. Pupils have multidimensional personalities having different

learning styles. The common implication of both these facts is that the teachers should use different strategies of teaching matching the objectives of teaching and pupil's learning styles and personality dimensions (Passi, Singh and Sansanwal, 1991).

Attempts have been made in the past by the researchers to match different approaches, strategies or styles of teaching with the objectives of instruction and pupil's learning styles (Dunn and Dunn, 1979; Fischer and Fisher, 1979; and Ellis 1979). Joyce and Weil (1980) also believe that strength in education resides in the intelligent use of this powerful variety of approaches - matching them to different goals and adapting them to the student's styles and characteristics. Competence in teaching stems from the capacity to reach out to differing children and to create a rich and multi-dimensional environment for them. Models of teaching emerged out of the search by Joyce and Weil (1972) to find out a variety of approaches or strategies of teaching to match with the objectives of teaching and the learner's learning styles. Models of teaching are a solution towards teaching style/ learning style dilemma (Ellis,1979). Thus, models of teaching are a new perspective to match the objectives of teaching with the learner's learning styles.

1.6 CONCEPT OF MODELS OF TEACHING

The word 'model' is used by the people in different ways in different contexts. Engineers and architects use the

word 'model' for dams, projects, building, machines, etc. They also carry out the construction work according to the plan or pattern envisaged in the model. Thus, a model of a building does guide an engineer to construct a building. It is meant for a particular purpose. In teaching-learning process, models have the same interpretation as they have in the case of construction of dams, buildings, etc. Thus, models of teaching, like plans, patterns or blueprints, present the steps necessary to bring about a desired outcome. According to Joyce and Weil (1972), teaching model is a pattern or plan which can be used to shape a curriculum or course, to design instructional materials, and to guide teacher's actions. Thus, a model of teaching can be used to design face-to-face teaching in classrooms or tutorial settings and to shape instructional materials-including books, films, tapes, computer-mediated programs and curricula (long term courses of study) (Joyce, Weil and Showers, 1992). Apart from the above uses, it creates the necessary environment which facilitates the teaching-learning process. The core of the process of teaching is the arrangement of environments within which the student can interact (Dewey, 1916). Thus, a model of teaching consists of guidelines for designing educational activities and environments. It specifies ways of teaching and learning that are intended to achieve certain kinds of goals (Weil and Joyce, 1978). It is a step-by-step procedure that leads to specific learning outcomes (Gunter, Estes and Schwab, 1990). Models

are prescriptive teaching strategies designed to accomplish particular instructional goals (Eggen et al.,1979). Thus, a model of teaching is designed to achieve a particular set of objectives. It is not a substitute to any teaching skill. Rather, it creates the conducive teaching-learning environment in which teachers teach more effectively, by making the teaching act more systematic, efficient and effective.

From the above definitions, the significant characteristics of models of teaching are stated as below:

i) Models of teaching are some sort of plans or guidelines or patterns or strategies of teaching.

ii) Models of teaching are not a haphazard combination of acts, but on the other hand, are systematic procedures to modify the behaviour of the learners.

iii) Models of teaching specify the learning outcomes or instructional goals in terms of observable and measurable students performance.

iv) They specify in definite terms the environmental conditions under which a student's response could be observed.

v) They specify the criteria of acceptable performance which is expected from the students.

Models of teaching are based on certain assumptions. The assumptions which have been given by Joyce and Weil (1980) are as follows:

i) There is a considerable array of alternative approaches to teaching. Many of these are practical and can be implemented in schools and classrooms where students and teachers have both skills and will.

ii) Methods make a difference in what is learnt as well as how it is being learnt. Implicitly, approaches to teaching are sufficiently different from one another that they change the probability that various kinds of outcomes will result if they are used.

iii) Students are a powerful part of the learning environment, and students react differently to any given different teaching method. Combinations of personality, aptitudes, interpersonal skills, and previous achievement contribute to configurations of learning styles so that no two people react in exactly the same way to any one model of teaching.

A discussion on the concept of models of teaching reveals that models of teaching have three major functions in the teaching-learning or instructional process. These are;(1) designing of curriculum or courses of study; (2) development and selection of instructional materials; and (3) guiding the teacher's activities in the teaching-learning situation. The functions of models of teaching

can be explained with the help of Figure 1:2.

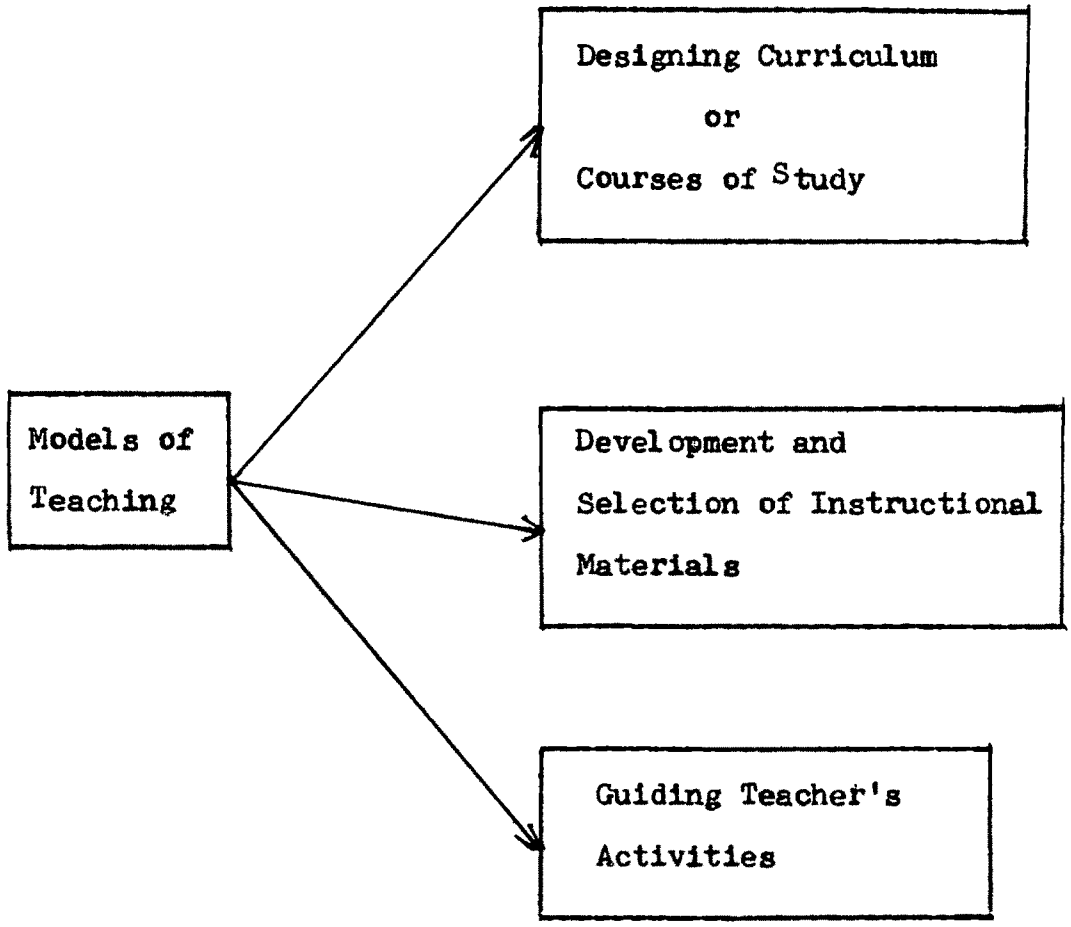

FIGURE 1.2: Functions of Models of Teaching

1.7 CLASSIFICATION OF MODELS OF TEACHING

During the last two decades, a lot of attention is being paid to improve the process of teaching which resulted in the development of a number of models of teaching by

various researchers (Joyce and Weil 1972; Eggen et al, 1979; Brady, 1985). All these models are based on empirical researches, theories, hunches, postulates, hypothetical propositions, etc. Among them the work of Joyce and Weil (1980) is monumental as they have classified 24 teaching models into four families as follows:

I. Information Processing Family:

This family of models aims at fostering the information processing ability in the learners. In other words, they help the learners to seek and master information, organize it, build, and test hypotheses. Joyce and Weil (1980) define information processing as the ways people handle stimuli from the environment, organize data, sense problems, generate concepts and solutions to problems and employ verbal and non-verbal symbols. It involves intellectual skills required to analyse information which include the ability to make observations through the use of inference, to generalize, to predict, and to explain events. (Eggen et al, 1979). Although information processing models are concerned with the intellectual skills and acquisition of knowledge by the students, they also contribute towards the realization of personal and social goals. The major models in this family are: Inductive Thinking Model, Inquiry Training Model, Scientific Inquiry, Concept Attainment, Cognitive Growth, Advance Organizer, and Memory Model.

II Personal Family:

This family of models stresses personal development of an individual and the development of self-hood. They emphasize the processes by which individuals can establish productive relationship with their environment and construct and organize their unique reality. They are more concerned with human feelings and emotions and work towards the development of an integrated functioning self. The models included in this family are : Non-directive Teaching, Awareness Training, Synectics, Conceptual Systems, and Classroom Meeting.

III. Social Interaction Family:

The models of this family emphasize the development of capabilities for interpersonal relationship. They put stress on the development of social skills which help individuals to engage in democratic processes and to work productively in the society. The models in this family are: Group Investigation, Social Inquiry. Laboratory Method, Jurisprudential Inquiry, Role Playing, and Social Simulation.

IV. Behaviour Modification Family:

The main emphasis of the models under this family is on changing the behaviour of the learners. These models have their bases in different learning theories, behaviour modification

theories and behavioural theories. These models sequence learning tasks and shape human behaviour by manipulating stimulus, response and reinforcement. Models included in this family are: Contingency Management, Self-control, Relaxation, Stress Reduction, Assertive Training, Desensitization and Direct Training.

1.8 BASIC PROCEDURES FOR IMPLEMENTATION OF A MODEL

Joyce and Weil (1980) have invented four concepts to describe the operations of the model itself as a way of communicating the basic procedures involved in implementing any instructional model. These are syntax, social system, principles of reaction and support system of a model.

i) Syntax: The term, 'syntax' of the model means model in action. It describes the different phases through which the model is activated or organised into action. In otherwords, it tells the teacher how he/she should begin and proceed further.

ii) Principles of Reaction: While executing a model, the teacher reacts to the students' activities in the classroom. Principles of reaction suggest to the teacher how to regard the students and respond to their performance or activities in the classroom. In some models, the teacher overtly tries to shape

the behaviour by rewarding certain student activities and maintaining a neutral stance towards others. Principles of reaction provide the teacher with rules of thumb by which to "tune in" to the student and select appropriate responses to what the student does.

iii) Social System: The social system of a model refers to the roles of the teacher and the student in the classroom and the relationship between them. It also describes the kinds of norms that are encouraged and the student behaviour which is rewarded. In some models, the teacher acts as a facilitator of group activity, in others a counseller of individuals and still in others a task master.

iv) Support system: It refers to additional requirements beyond the usual human skills, capacities and technical facilities necessary to implement a model. These additional requirements may be a trained leader, some special facilities like films, self-instructional materials and a particular organisational climate suiting to the requirements of a particular model.

Instructional and Nurturant Effects:

The effects of the model are categorised into two types - Instructional and Nurturant Effects. According to Joyce and Weil (1980), instructional effects are those

directly achieved by leading the learner in certain directions. The nurturant effects are indirect outcomes resulting from experiencing the environment created by the model. Instructional and nurturant effects interact with and affect each other. While choosing a model for teaching, or curriculum-building, or preparation of instructional materials, the teacher must take into account the desirability of instructional and nurturant effects.

From the foregoing discussions, it is evident that models of teaching emerged when the existing methods of teaching failed to match the objectives of teaching with the learner's learning styles. They are like plans or patterns which can be used to achieve a variety of instructional goals. Models of teaching are classified into four major families. These are:(i) information processing family, (ii) Personal Family, (iii) Social Interaction Family, and (iv) Behaviour Modification Family. Each of the families of models has a set of models under it. Joyce and Weil (180) have invented four concepts to describe the operations of the model as a way of communicating the basic procedures involved in implementing any instructional model. These are:(i) Syntax, (ii) principles of reaction, (iii) social system and (iv) support system. The effects of a model are categorised into two types - Instructional and Nurturant Effects. Instructional effects are the direct outcomes and nurturant

effects are the indirect outcomes of the model. The present study aims at examining the instructional and nurturant effects of Advance Organizer Model. Therefore, it is relevant to know the rationale behind the study.

1.9 RATIONALE OF THE STUDY

Educational goals towards which the school system all over the world aim at are divided mainly into three domains - cognitive, affective, and psychomotor. Cognitive goals are concerned with the intellectual growth of the student, affective goals aim at the personal, emotional, and social development of the student; and psychomotor goals address the acquisition of manipulative and movement skills. Although all the above goals of education have equal significance in the context of school education, the intellectual growth of the student is becoming the primary function of the school activities. Hence, cognitive domain is more stressed in the activities of the school. Within this cognitive domain is an important set of goals called 'information processing'. Information processing goals are achieved through information processing teaching strategies.

Information processing teaching strategies are based upon a relatively new movement in psychological thinking which views the learner as an active investigator of his or her environment rather than a passive recipient of stimuli

and rewards (Eggen et al, 1979). Bruner described this change in emphasis as "....." a view that treats man as a searcher after, processor of, and indeed creator of, information (Farnham - Diggory, 1972).

An information processing teaching strategy has two major objectives. First, it is to help the students acquire knowledge, which is considered to be the school's primary function. Second, it is to help the students develop learning and thinking skills for themselves, which is the growing concern in our society. Schools exist not to cram facts into the students' heads, but rather to help them acquire power in learning for themselves (Smith, 1975). Thus, information processing strategies aim at the development of both content skill (acquisition of knowledge) and process skill (development of learning and thinking skills).

These two objectives are the major considerations for which information processing strategies or as they are called information processing family models of teaching by Joyce and Weil (1972) have been chosen as the focus of the study. All the models of teaching under information processing family aim at the development of both content and process skills. While some of them (Inductive Thinking, Inquiry Training, Scientific Inquiry, and Concept Attainment) enhance students' ability to seek and master information, organize it, build and test

hypotheses, and apply what they are learning in their independent reading and writing, others (Advance Organizer Model) teach them to profit from direct instruction through readings, lectures and other mediated presentation. Therefore, majority of the models under information processing family stress problem solving ability of the students i.e. collecting, organizing, testing and applying information. It is true that the school is concerned with developing the student's ability to acquire knowledge in solving particular problems. But this function of the school, although constituting a legitimate objective of education in its own right, is less central than its related transmission of knowledge function in terms of the amount of time that can be reasonably alloted to it, in terms of the objectives of education in a democratic society and in terms of what can be reasonably expected from most students (Ausubel, 1968). Advance Organizer Model which is based on Ausubel's theory of "meaningful verbal learning" (1963) is designed to transmit knowledge to the students in an efficient and meaningful manner. With this precise reason, Advance Organizer Model (AOM) has been chosen in the present study.

Although Advance Organizer Model as a classroom teaching strategy was systematised and grouped by Joyce and Weil in 1972 under information processing family, the first attempt to study the effectiveness of advance organizer (AO) was

made by Ausubel himself in 1960. Since then, research on advance organizer has been steadily increasing and in the past 34 years, more than 200 studies have been conducted in this area all over the world including India.

Though a number of studies have been conducted during the last 34 years, a few selected studies have been taken in the present study to build up the rationale. Before 1975, whereas many studies reported positive effects of advance organizer, others did not. In order to sort out the inconsistencies in findings, Barnes and Clawson (1975) classified 32 advance organizer studies into those finding statistically significant and non-significant results and found that 12 reported facilitative effects of advance organizers whereas 20 did not. They concluded that advance organizers, "as presently constructed generally do not facilitate learning". Lawton and Wanska (1977) pointed out several inaccuracies in the Barnes and Clawson description and interpretation of an advance organizer as well as inconsistencies in the classification of studies and in a later study (1979) again they reported positive effects of advance organizer lessons.

After 1975, a number of studies were also conducted to study the effectiveness of advance organizer (AO) in facilitating learning. Some of them reported positive effects of AO, whereas others did not. Thus, there was

again inconsistency in the findings of AO studies which motivated many researchers after 1975 to review AO studies to see whether advance organizer promotes learning. Kozlow (1978) examined 99 published and unpublished studies and reached the conclusion that advance organizers facilitatedlearning. Mayer (1979) compared the results of 44 published studies of AOs to predictions from reception and from assimilation learning theory and found that the predictions from assimilation theory were confirmed. Lutien, Ames and Ackerson (1980) reviewed 135 published and unpublished studies and concluded that AOs facilitatedboth learning and retention. Stone (1983) analysed 112 AO studies and found that advance organizers were shown to be associated with increased learning and retention of the material to be learned.

When such reviews of AO studies showing positive effects of AOs were going on, Anderson, Spiro and Anderson (1978) doubted seriously on the effectiveness of AO and commented that Ausubel's concept of advance organizer as consisting of "a few abstractly worded sentences" intended to facilitate textual learning rather than through appropriate modification of the learner's existing cognitive structure. In a reply to them, Ausubel (1980) said, "their assertions on his theory of learning and advance organizer are completely unspecified, unsubstantiated and undocumented as well as based on undisputable mis-representation of published material and on logical sequitirs".

Not finding unanimous views by the researchers and reviewers on effectiveness of AO, MC Eneany (1990) took up the review of AO studies but deviated from the earlier reviews by taking only the studies carried out by Ausubel himself. He found out the equivocal nature of the advance organizer and suggested for a reappraisal of Ausubel's theory. However, an updated meta-analysis of AO research over the thirty years has been carried out by Mahar (1992). He found that more than half the authors since 1960 had reported specific positive effects of the AO on learning.

When the great debate on AO outside India is still on, the researchers in India evinced keen interest in AO studies. Perhaps, the first AO study to be carried out in India was by Buddhisagar (1979) who studied the whole versus part presentation of advance organizer and found both approaches to be significant. A number of studies showing the positive effect of AO were carried out at the M.Phil level (Malik, 1985; Panda, 1986; Senapati, 1986; Barik, 1987; Rajoriya, 1987). But the first doctoral research was carried out by Chitriv (1983) who compared the Concept Attainment Model (CAM) and Advance Organizer Model (AOM) with traditional method in terms of performance on the concept of knowledge test and found that the AOM as well as the CAM were singificantly superior to the traditional method ;whereas AOM was superior to CAM for teaching mathematical concepts to XI grade students. Ghosh (1986) studied the prose-passage type

and pictorial type organizers and found that both of them facilitated the retantion of life science subject matter even after an interval of four weeks. But he observed that instructional strategy with a pictorial type of AO was found to be better than the prose-passage type of advance organizer. Pandey (1986) reported that both Advance Organizer Model and Inquiry Training Model were significantly superior to the traditional method in terms of pupils' achievement; whereas all the three were equally effective in terms of pupil's attitude towards social studies. Buddhisagar (1986) in her doctoral study found that the instructional material based on AOM and PLM were found to be effective in terms of achievement of students on different criterion tests and reaction of students. Kaushik (1988) studied the long term effect of advance organizers upon achievement in Biology in relation to reading ability, intelligence and scientific attitude. He found that advance organizers facilitated immediate and delayed retention and the achievement of the learners in Biology was found to be highly positively correlated with their intelligence, reading comprehension and scientific attitude. Eforts have also been made to see the effectiveness of AOM in facilitating teaching competence of trainee teachers (Passi, Sansanwal, Singh, 1988; Gupta 1991; and Mahajan, 1992).

Looking to the above discussions, though a number of AOM studies have been conducted inside and outside India, very

few of them have addressed to the examination of both instructional and nurturant effects of AOM as described by Joyce and Weil (1980). Instructional effects of a model are the direct outcomeswhich come from the content and skills on which the activities of the model are based, whereas nurturant effects are the indirect outcomes which are implicit or latent in the environment created by the model. The examination of latent functions can be as exciting and important as the examination of direct functions (Joyce, Weil & Showers, 1992). Thus, studies may be designed in developing tools to measure these effects and thus facilitate the study of the effectiveness of the model of teaching in terms of instructional and nurturant effects (Passi and Sansanswal, 1991). Therefore, the researcher felt the need of examining both instructional and nurturant effects of advance organizer model. In earlier studies, the instructional effect i.e. achievement of meaningful learning was the main focus. But, the present study aims at studying the instructional effects namely, development of conceptual structures and meaningful assimilation of information and ideas as well as nurturant effects, namely, interest in inquiry and habits of precise thinking.

1.10 STATEMENT OF THE PROBLEM

The title of the problem has been worded as: "A Study of Advance Organizer Model in relation to its Instructional and Nurturant Effects".

1.11 EXPLANATION OF TERMS

i. Advance Organizer Model - Advance Organizer Model has been systematised by Joyce and Weil (1972) based on the idea of advance organizer propounded by Ausubel (1963). It aims at providing students with a cognitive structure for comprehending material presented through lectures, reading and other media.

ii. Instructional and Nurturant Effects - These are the behavioural outcomes which accrue as a result of instructional environment created by Advance Organizer Model. The instructional effects are those directly achieved by leading the learner in certain direction. The nurturant effects come from experiencing the environment created by the model.

Instructional Effects:

In the present model, the instructional effects are two : (a) Development of conceptual structures, and (b) Meaningful assimilation of information and ideas.

(a) Development of Conceptual Structures:

One important goal in the Ausubel model is that students can organize or structure previous unstructured information. This amounts to structuring a list of familiar unorganized concepts into a hierarchy (Eggen et al.,,1979). Thus, students develop organizing and structuring the concepts in diagrammatic

form with the major concept at the top and the sub-concepts following the major concepts. The Ausubelian conceptual structure has been presented by Novak et al. (1981) in the form of concept maps.

(b) Meaningful Assimilation of Information and Ideas:

According to Ausubel (1963) meaningful learning or meaningful assimilation of information and ideas can take place if the learning material or information is potentially understandable. The key to meaning involves solidly connecting the new learning material with the existing ideas in the learners' cognitive structure.

Nurturant Effects:

The nurturant effects of the model are also two:

(a) Interest in Inquiry:

Inquiry refers to a process which involves a series of problem solving activities i.e. sensing the problem, hypothesizing, collecting evidences and testing hypotheses. An interest in inquiry means inclination of a person in the activities involved in the inquiry process.

(b) Habits of Precise Thinking:

Ausubel (1968, 1985) defines precise thinking as follows: "Precise and integrated understandings are, presumably more likely to develop if:

1) the central unifying ideas of a discipline are learned before more concepts and information are introduced;
2) the limiting conditions of general developmental readiness are observed;
3) precise and accurate definition is stressed, and emphasis is placed on delineating similarities and differences between related concepts;
4) learners are required to reformulate new propositions in their own words.

Thus, habits of precise thinking refers to students' habits to acquire precise and integrated meanings. The present study emphasises the above meaning while operationalising the concept of precise thinking.

1.12 OBJECTIVES OF THE STUDY

The study was conducted to achieve the following objectives:

i. To compare the effects of Advance Organizer Model and traditional method of teaching in terms of students' development of conceptual structures.
ii. To compare the effects of Advance Organizer Model and traditional method of teaching in terms of students' meaningful assimilation of information and ideas.
iii. To compare the effects of Advance Organizer Model and traditional method of teaching in terms of students' interest in inquiry.

iv. To compare the effects of Advance Organizer Model and traditional method of teaching in terms of students' habits of precise thinking.

v. To compare the effects of Advance Organizer Model and traditional method of teaching in terms of students' retention of meaningful assimilation of information and ideas.

vi. To study the reactions of the students' towards teaching through Advance Organizer Model.

1.13 HYPOTHESES OF THE STUDY

The following hypotheses were formulated for being tested in the present study.

i. There will be no significant difference between the mean scores of students taught through AOM and traditional method of teaching in development of conceptual structures.

ii. There will be no significant difference between the mean scores of students taught through AOM and traditional method of teaching in meaningful assimilation of information and ideas.

iii. There will be no significant difference between the mean scores of students taught through AOM and traditional method of teaching in interest in inquiry.

iv. There will be no significant difference between the mean scores of students taught through AOM and

traditional method of teaching in habits of precise thinking.

v. There will be no significant difference between the mean scores of students taught through AOM and traditional method of teaching in terms of retention of meaningful learning.

vi. Students taught through AOM will express favourable reactions towards AOM.

1.14 DELIMITATIONS OF THE STUDY

The study was delimited:

i. to the class VIII students of Kendriya Vidyalaya, No.1, Bhubaneswar, ORISSA

ii. to the teaching of Civics since it is the researcher's field of specialization.

iii. to four units from the book titled, "Our Country Today: Problems and Challenges", viz: National Integration, India's Defence, Foreign Policy of India and the United Nations.

iv. to the measurement of instructional and nurturant effects of AOM.

1.15 SUMMARY

Teaching is viewed both as an act and as a process. Methods of teaching constitute an important component in the teaching act. Methods of teaching have passed through several developments in the history of pedagogy. Models of

teaching emerged out of the failure of methods of teaching to match the objectives of teaching with the learner's learning styles. Models of teaching are broadly classified into four families. Each family of models of teaching has a set of models under it. The operations of each model are described in terms of its syntax, principles of reaction, social system and support system. Effects of a model are described as instructional and nurturant. The present study aims at examining the instructional and nurturant effects of Advance Organizer Model of teaching. The present study has six objectives which are to be achieved through the experimentation. Correspondingly, six hypotheses have been formulated which are to be tested with the help of data. The study has a few limitations. In the Chapter II, the theoretical framework of the Advance Organizer Model is being discussed.