CHAPTER II

THEORETICAL OVERVIEW

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THEORETICAL OVERVIEW

Education is considered as the most effective means for the all-round development of the child, which help him to grow socially, intellectually, morally and emotionally. The teacher is the single most important factor outside the home environment in affecting the student’s development. A normal human organism is born with urges, aptitudes, capacities etc. and these acts as the potential for its development. The development of the individual leads to the development of the human resources and in turn the society. In order to bloom, expand and develop the potentialities of the individual to the maximum possible, there should be purposeful guidance and concentrated effort and this is normally gained through the process of education.

2.1 PHILOSOPHY BEHIND MODELS OF TEACHING

The extraordinary expansion of knowledge and human capacity to assimilate it will become a major issue before educationists. In the context of this tremendous expansion and explosion of information and in the modes of acquiring it with the widespread application and of information technology and telecommunication, Piaget’s vision on future education needs special consideration. He asserts that "if we want to form individuals capable of inventive thought and of helping society tomorrow to achieve progress, then it is clear that an education which is an active discovery of reality is superior to one that consist in merely providing the young with ready made wills to will with and ready made truths to know" (Piaget, 1971). We move into study
of teaching as an enquiry by individuals, faculties and school districts. Perhaps the most important finding is the purpose of teaching to increase the capacity of the learners to learn and teach them how to learn (Joyce and Weil, 2005).

The prime concern of education is to stimulate and guide the developed capacities of the individual to the most suitable channels. For this, the teachers should purposively plan and actively strive for learning using effective methods. Over the years, educationists and psychologists have developed a large number of learning theories and given considerable support to teachers in teaching. Though the complexity of teaching learning process and the changing circumstances envisaged, the theories alone couldn’t realize instructional goals that are necessary for the all-round development of the child. Since education is meant for the all-round development of the child’s personality, the numbers of teaching goals are large and diverse in nature. There is no single best way that can be employed in all situations. Different instructional strategies are required to realise different instructional goals. The best technique is the one, which will be most effective for reaching a particular goal in a given situation (Eggen and Kauchak, 1993).

Competence in teaching stems from the capacity to reach out to multifaceted and to create a rich and multi-dimensional environment for them. Models of teaching emerge out of the search to find out a variety of approaches or strategies of teaching to match the learning environment and learning styles of pupils (Ellis and Harper 1975).
2.2 CONCEPT OF MODELS OF TEACHING

Teaching is the process of building communities of learners who use their skills to educate themselves. So powerful learners must know how to profit from a wide range of opportunities, from teaching and reading, from collecting and analysing information and building concepts and theories and from working co-operatively.

Instructional goals for different classes of students vary greatly and therefore the strategies utilised to achieve these goals must vary accordingly. Eggen, (1993) defined Models as “prescriptive teaching strategies designed to accomplish particular instructional goals”. “A model is merely a tool for thinking about classroom teaching; it is a set of concepts carefully arranged to explain what teachers and students do in a classroom, how they interact, how they use instructional materials, and how these activities effect what students learn”(Flanders, 1970). Joyce and Weil (2005) define a model as “pattern or plan, which can be used to shape curriculum or course, to design instructional materials and to guide teacher’s action”.

Eggen (1993) says that a teaching model can be considered as a type of blue print for teaching. “It is a set of interrelated components arranged in a sequence that provides guidelines to realise a specific goal. A model of teaching helps in designing instructional activities, environmental facilities, carrying out of these activities and the realisation of stipulated objectives” (Singh, 1995). It is a step by step procedure, which leads to specific learning outcomes.
Thus, a Model of Teaching consists of guidelines for designing educational activities and environment. Models of Teaching are a plan that can also be utilised to shape courses of studies, to design instructional materials and to guide instruction. “It can be used to design face-to-face teaching in classroom at tutorial settings to shape instructional materials including books, films, tapes, computer mediated programmes and curricula and long term courses of study” (Joyce and Weil, 2005). In short, a Model of Teaching is merely a tool for thinking about the teaching situation; which ultimately leads to certain direct and indirect metacognitive abilities and attitudes among the learners.

Smith (1987) defines teaching as a “system of action intended to induce learning”. Taking into account different aspects of teaching learning process forms a model. The diagram depicts the interrelation of components in teaching learning.
2.3 CHARACTERISTICS OF MODELS OF TEACHING

Good models of teaching have some identifiable characteristics, which are described as follows:

i. **Specification of Learning Outcome**

All models of teaching specify the learning outcomes in detail on observable student performance. What a student will perform after completing an instructional sequence is specified in detail.
ii. Scientific Procedure

A model of teaching is not a haphazard combination of facts but on the other hand, it is a systematic procedure to modify the behaviour of learners.

iii. Specification of Environment

This means that every model of teaching specifies in definite terms the environmental conditions under which a student’s response should be observed.

iv. Specification of Criteria of Performance

A model specifies the criteria of acceptable performance, which is expected from the students. The model of teaching delineates the behavioural outcome, which the learner would demonstrate after completing specific instructional sequence.

v. Specification of Operations

A model of teaching specifies the mechanism that provides for the reactions of students and interaction with the Environment.

2.4. FUNCTIONS OF MODELS OF TEACHING

There are mainly four functions in the teaching learning process of the models. They are:
i. Developing Curriculum of Course of Study

A model of teaching helps in the development of curriculum for different classes at different levels of education.

ii. Guiding the research activities in the teaching-learning situation

A model of teaching serves a useful purpose of providing indefinite terms that the teacher has to teach. He has a comprehensive design of instruction with him through which can achieve the objectives of courses. A model provides guidance to the teacher as well as to the students to reach the goal of instruction. Thus teaching becomes a scientific, controlled and goal directed activity.

iii. Specification of Instructional Material.

A model of teaching specifies in detail the different types of instructional materials, which are to be used by the teacher to bring desirable changes in the personality of the learner. They also assist procedures of materials to create interesting and effective materials and learning sources.

iv. Improvement in Teaching.

A model of teaching helps the teaching learning process and improves the effectiveness of teaching and helps to establish teaching and learning relationship empirically.
Joyce and Weil (2005) designed a procedure for the implementation of any instructional model. This procedure tells us what activities should occur and when appropriate, in what sequence. They put forward a definite structure of the model and it includes:

1. Syntax
2. Principle of reaction
3. Social system
4. Support system
5. Instructional and nurturant effects
1. **Syntax**

The syntax or phasing of the model describes the model as a flow of actions in terms of sequence of events, which are called phases. Each model has a distinct flow of phase.

2. **Principle of Reaction.**

   Principle of reaction tells the teacher how to respond to what the learner does. In some models, the teacher overtly tries to shape the behaviour of students by regarding certain student activities and maintaining a neutral stance toward other. In other models, such as those designed to develop creativity, the teacher tries to maintain a non-evaluative, carefully equal stance so that the learners become self-directing. Principles of reaction provides the teacher with rules of thumb by which to ‘turn in’ to student and select appropriate to what the student does.

3. **Social System.**

   Social system describes student and teacher roles and relationship and kinds of norms that are encouraged. The teacher and the learner, the location of authority and the amounts of control over activity that emerges from the process of interaction explain the concept of hierarchical relationship in terms of sharing of initiating activity. The leadership role of the teacher varies greatly from, model to model. In certain models, the teacher has a dominant role to play. In some others the activity is centered on the pupil and still in some others the activity is equally distributed.
Thus, based on social system, models can be classified under three categories. They are:

a. **Highly structured**: Teacher is the center of activity.

b. **Moderately Structured**: Activity is equally distributed between Teacher and student.

c. **Unstructured**: Norms, roles, relationships and activities become less prescribed

4. **Support System**.

The support system refers to the additional requirements beyond the useful skills, capacities and technical facilities necessary to implement a model. This includes special skills, special knowledge of the teachers, audio-visual materials like films, self-instructional materials, visit to places of importance etc.

5. **Instructional and Nurturant effects**

The description of the effects on models can validly categorized as the direct or instructional effects are those directly achieved by leading the learner in certain directions. The nurturant effects come from experiencing the environment created by the model (Joyce and Weil, 1992). In choosing a model for teaching, for curriculum construction, or as a basis for materials, the teacher must balance instructional efficiency, or directness with the predictable nurturant effects.

The diagrammatic representation of instructional and nurturant effect is given below.
During the last two decades, a lot of attention has been paid to improve the process of teaching, resulted in the development of a number of models of teaching by various researchers (Decceco, 1997, Joyce and Weil, 2005, Brady, 2008). All these are based on empirical researches, theories, hunches, postulates, prepositions etc. Educators, psychologists, sociologists, system analyst, psychiatrists and many others have developed theoretical positions about teaching and learning. A number of educationists have developed Models of Teaching from different sources namely classroom situations, research in psychological and training therapists and theorists. But Bruce Joyce and Marsha Weil brought about the revolutionary changes in instructional strategies.
Joyce and Weil (1992) have developed about twenty-five models of teaching on the basis of their chief emphasis- the ways they approached educational goals and means. They have organized these models into four families. They are:

a. Personal Models

b. Information Processing Models

c. Social Interaction Models

d. Behaviour Modification Models

1. Social Interaction Models

The models of this family emphasize the development of capabilities for interpersonal relationships. They stress the development of social skills, which help individuals to engage democratic processes and to work productively in the society. The major models in this family are; Group Investigation Model, Classroom Meeting Model, Inquiry Model, Laboratory Method Model, Jurisprudential Inquiry Model, Role-playing Model and Social Simulation Model.
The important model coming under this family, their theorists and goals are given in table 2.1

Table 2.1

SOCIAL INTERACTION MODELS

<table>
<thead>
<tr>
<th>Models</th>
<th>Major Theorists</th>
<th>Mission or Goals for which the model is most applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Investigation Model</td>
<td>Herbert, Thelen and John Dewey</td>
<td>Development of skills for participation in democratic social process through combined emphasis on their personal skills and academic inquiry skills. Aspects of personal development are the important out growth of this model.</td>
</tr>
<tr>
<td>Social Inquiry Model</td>
<td>Byron Massialas and Benjamin Cox</td>
<td>Social problem solving, primarily through academic inquiry and logical reasoning.</td>
</tr>
<tr>
<td>Laboratory Method Model</td>
<td>National Training Laboratory (NTL), Bethel and Maine.</td>
<td>Development of interpersonal and group skills, through this, personal awareness and flexibility</td>
</tr>
<tr>
<td>Jurisprudential Model</td>
<td>Donald Oliver and James P Shaver</td>
<td>Designed primarily to teach the Jurisprudential frame of reference as a way of thinking about and resolving social issues.</td>
</tr>
<tr>
<td>Role Playing Model</td>
<td>Fannie Shaflel and George Shaflel</td>
<td>Designed to induce students to inquire about personal and social values, with their own behaviour and values becoming the source of their inquiry</td>
</tr>
<tr>
<td>Social Simulation Model</td>
<td>Surene Borcock</td>
<td>Designed to help students to experience various social processes and realities and to examine their own reactions to them.</td>
</tr>
</tbody>
</table>
2 Information Processing Model

This family of models aims at fostering the information processing ability in the learners. In other words, these models help the learners to seek and master information, organize it, build and test hypotheses. According to Piaget (1952), “Cognitive growth is an interaction between the environment and the child’s cognitive structure”. When the child’s cognitive structure is unable to comprehend elements in the environment, information processing takes place to change the cognitive structure to accommodate the new situation. Information processing refers to the way pupil handle stimuli from the environment, organize date, sense problems, concepts and solutions to problems and employ verbal and non-verbal symbols. (Joyce and Weil, 1992).

Eggen and Kauchak (1993) states that the major goals of information processing in classroom are: -

a. Development of intellectual abilities.

b. Acquisition of content.

c. The mastery of methods of inquiry.

According to them, the information processing activities in the classroom has the following characteristics: -

a. Students attain information.

b. The data is processed by students into useful concepts and generalizations.

c. Information is converted into form that is more useful.
The major models in this family are Inductive Thinking Model, Inductive Training Model, Concept Attainment Model, Advance Organizer Model, Scientific Inquiry Model, Cognitive Growth Model, Memory Model and Synetics Model.

<table>
<thead>
<tr>
<th>Models</th>
<th>Major Theorists</th>
<th>Mission or goal for which the model is most applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive Thinking Model</td>
<td>Hilda Taba</td>
<td>Designed primarily for development of inductive mental processes and academic reasoning or theory building but these capacities are useful for personal and social goals as well</td>
</tr>
<tr>
<td>Inquiry Training Model</td>
<td>Richard Suchman</td>
<td>Designed to develop scientific inquiry training skills in the pupils.</td>
</tr>
<tr>
<td>Science Inquiry Model</td>
<td>Joseph J. Schwab</td>
<td>Designed to teach the research system of a discipline but also expected to have effects in other domains.</td>
</tr>
<tr>
<td>Concept Attainment Model</td>
<td>Jerome S. Bruner</td>
<td>Designed primarily to develop inductive reasoning, but also for concept attainment and analysis.</td>
</tr>
<tr>
<td>Development Model</td>
<td>Jean Piaget Irving Sigel Edmund Sullivan</td>
<td>Designed to increase general intellectual development, especially logical reasoning.</td>
</tr>
<tr>
<td>Advance Organizer Model</td>
<td>David Ausubel</td>
<td>Designed to increase the efficiency of information processing capacities to meaningfully absorb and relate bodies of knowledge.</td>
</tr>
<tr>
<td>Memory Model</td>
<td>Hary Lorayne and Jerry Lucas</td>
<td>Designed to increase capacity to memorise</td>
</tr>
<tr>
<td>Synetics Model</td>
<td>William J. Gordon</td>
<td>Personal development of creativity and creative problem solving.</td>
</tr>
</tbody>
</table>

3. **Personal Models**

This family of models stresses on personal development of an individual and development of self-hood. These models emphasize the processes by which individuals can establish a productive relationship with their environment and
construct and organize their unique reality. They are more concerned with human feelings and emotion and try to move towards the development of an integrated functioning self. The models include in this family are Non-directive Model, awareness Training Model, Conceptual System Model and Classroom Meeting Model.

Table 2.3

PERSONAL DEVELOPMENT MODELS

<table>
<thead>
<tr>
<th>Models</th>
<th>Major theorists</th>
<th>Mission or Goals for which the model is most applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-directive Teaching Model</td>
<td>Carl R. Rogers.</td>
<td>Emphasis on building the capacity for personal development in terms of self-awareness, understanding autonomy and self-concept.</td>
</tr>
<tr>
<td>Awareness Training Model</td>
<td>William Schutz, George Brown and Fritz Peris.</td>
<td>Increasing one’s capacity for self-expression and self-awareness. Much emphasis on development of interpersonal awareness and understanding as well as body and sensory awareness.</td>
</tr>
<tr>
<td>Conceptual System Model</td>
<td>David Hunt</td>
<td>Designed to increase personal complexity and flexibility</td>
</tr>
<tr>
<td>Classroom Meeting Model</td>
<td>William Glasser</td>
<td>Development of self-understanding is responsible to oneself and one’s social group.</td>
</tr>
</tbody>
</table>

4. Behaviour Modification Models

This family has evolved from attempts to develop efficient system for sequencing learning tasks and shaping behaviour by manipulating stimulus-response and reinforcement. Exponent of reinforcement theory such as Skinner (1957), have developed these models and “Operant Conditioning” is their central mechanism. The main thrust of these models is modification of the visible or verbal
or overt behaviour of the learner rather than the underlying psychological structure and unobservable behaviour. In this model, each behaviour is so designed that success is ensured; the learner actively respond to the problematic situation and gets reinforcement and feedback. The important models coming under this family include; Contingency Management Model, Assertive Training Model, De-sensation and Direct Instruction Model.

**TABLE 2.4**

**BEHAVIOUR MODIFICATION MODELS**

<table>
<thead>
<tr>
<th>Models</th>
<th>Major Theorists</th>
<th>Goal for which the model is most applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingency Management Model</td>
<td>B.F. Skinner</td>
<td>Designed to transfer a desirable behaviour to similar new situations.</td>
</tr>
<tr>
<td>Operant conditioning model of Teaching</td>
<td>B.F. Skinner</td>
<td>Shaping of behaviour in successive approximation by providing reinforcement.</td>
</tr>
<tr>
<td>Stress (Anxiety) Reduction Model</td>
<td>David E Rim and Joseph Wolpe</td>
<td>Substitution of relaxation for anxiety in society situation.</td>
</tr>
<tr>
<td>Assertive Training Model</td>
<td>Wolpe Lay Arns</td>
<td>Expression of feeling social situation.</td>
</tr>
<tr>
<td>Direct Instructional Model</td>
<td>Engelman</td>
<td>Helps students to master academic content to guided and independent practice sessions.</td>
</tr>
</tbody>
</table>
Figure 2.5  Families of Models of Teaching
All of the models of teaching can enhance the ability of students to achieve various learning objectives. Thus, actually, increasing aptitude to learn is one of the fundamental purposes of these models. Students will change as their repertoire of learning strategies increases, and they will be able to accomplish more and more types of learning more effectively. These powerful models of teaching are designed to bring about particular kinds of learning and to help students become more effective learners, as educators, we need to be able to identify these models and to select the ones we will master in order to develop and increase our own effectiveness.

2.7 THE CONCEPT OF BEHAVIOUR MODIFICATION AND ITS KEY CHARACTERISTICS

Behaviour modification is an approach to the assessment, evaluation and alteration of behaviour. The approach focuses on the development of adaptive, prosocial behaviour and the reduction of maladaptive behaviour in everyday life. Occasionally behaviour modification is considered to be a specific form of psychotherapy or treatment. In fact, many of the techniques are applied to treat various clinical problems in children, adolescents and adults such as anxiety, depression, substance abuse, to mention a few. Yet the approach embraces a large number of quiet different interventions that are applied will beyond the context of psychotherapy. Behavioural interventions also applied to education, child rearing, medicine and health, sports, and rehabilitation. Indeed, behaviour modification techniques have been applied in virtually all settings that one can conceive of where
humans work, live, and interact. Behaviour modification is not a set of teaching techniques or a bag of tricks. Rather, it is better conceived broadly as a scientific approach to understanding and changing human behaviour. The main characteristics of behaviour modification are given in the following table.

### Table 2.5
Characteristics of Behaviour Modification

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>DESCRIBED BY ……</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on Behaviour</td>
<td>◗ Efforts to assess overt behaviour directly to identify the problem or focus and to evaluate change, direct assessment of the target problem.</td>
</tr>
<tr>
<td>Focus on Current Determinants of Behaviour</td>
<td>◗ Emphasis on what factors exert influence on current functioning and what factors can be used to alter performance.</td>
</tr>
<tr>
<td>Focus on Learning</td>
<td>◗ Providing experiences that systematically develop behaviour based on learning theory and research.</td>
</tr>
<tr>
<td>Assessment and Evaluation</td>
<td>◗ Measuring the focus of the intervention(what one wishes to change and evaluate the impact of the intervention (whether the behaviours change and whether the intervention was responsible for the change)</td>
</tr>
<tr>
<td>Application</td>
<td>◗ Extended interventions to all facets of everyday life in which maladaptive behaviours are to be decreased and adaptive behaviours are to be increased; intervening in everyday situations where the changes are desired.</td>
</tr>
</tbody>
</table>

### 2.8 APPLICATIONS OF BEHAVIOUR MODIFICATION

The scope of application of behaviour modification is quite broad and indeed, it is safe to say that no other psychological intervention or approach has been applied as widely to human behaviour. Behaviour modification focuses on
interventions that can be implemented and applied in everyday life and setting such as day care centers, hospitals, schools, homes, business etc. professionals who know about behaviour modification obviously play a critical role in designing and implementing interventions. Yet interventions are often conducted directly in the setting in which behaviours need to be developed. Consequently, persons responsible for the care, management, and education of the clients, such as parents, teachers, relative, spouses, roommates, peers, supervisors and colleagues, are often utilized to implement behaviour modification programmes. In application with children, behaviour modification techniques can work on changing behaviour of interest, oppositional behaviour, completing homework etc. Table given below shows some of the areas of application of behaviour modification.

Table 2.6
Areas of Application of Behaviour Modification

<table>
<thead>
<tr>
<th>CONTEXT/SETTING</th>
<th>INTERVENTIONS HAVE BEEN EFFECTIVE IN……</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapy/treatment settings</td>
<td>❖ Treating a broad range of psychological problems and psychiatric disorders including anxiety (e.g., fears, obsessive-compulsive disorders, panic attacks), depression, substance use and abuse (e.g., drug, alcohol, cigarettes), conduct problems, hyperactivity, autism, and eating disorders.</td>
</tr>
<tr>
<td>Education</td>
<td>❖ Improving academic performance, studying, achievement, academic grades, classroom development, creative writing, participation in activities as relevant to elementary, middle, and high school students. ❖ Mastery of the subject matter at all levels including college students ❖ Many problems in school settings have focused on behaviours beyond the usual</td>
</tr>
</tbody>
</table>
domain of education because schools provide a useful place to deliver the interventions. Thus, behavioural programs have been applied to reduce or prevent cigarettes smoking, alcohol and drug use, and unprotected sex among adolescents.

| Medicine and health | Teaching individuals to detect early signs of diseases (e.g., cancer checks through self-examination), protect against sexually transmitted diseases, reduces pain associated with invasive medical procedures (e.g., lumbar taps) or postoperative recovery, and adherence to medical regimens (e.g., for cancer, diabetes). |
| Business and industry | Teaching workers to engage in practices that reduce accidents (e.g., when using equipments), improve health or overcome problems that compete with health and work (e.g., alcohol use, cigarette smoking). Helping individuals obtain jobs (e.g., how to seek jobs, interview skills), improve on-the-job performance, reduce absenteeism, tardiness, improve employee-customer interactions, and reduce shoplifting by customers. |
| Sports and athletics | Improving coaching practices, performance of athletes (e.g., in football, gymnastics, tennis, swimming and track) and stress management among athletes. |
| Everyday life | Training parents to interact with their child, for parents who are in special situations (e.g., handicapped child) for children who are in special situations (e.g., abused, neglected children) and to parents without special difficulties or obstacles. Training children to engage in safe behaviours (e.g., use of seat belts, crossing streets) or ward off dangerous situations (e.g., responding to would-be abductors). Training in elderly in nursing homes to increase physical activity and engage in more social interactions with others. Training individuals to engage in safe driving practices conserve energy in homes, and recycle wastes. |
2.7 CONTINGENCY MANAGEMENT MODEL

I. Theoretical Background

Behaviour theorists perceive human behaviour as a function of the immediate environment—specially, an eliciting stimulus and a reinforcing stimulus. The essential feature is the relationship between the response and reinforcing stimuli. If the reinforcement is presented when and only when the response appears, we say it is contingent. Contingency management is the systematic control of reinforcing stimuli such that it is presented at selected times and only after the desired response has been given. People who set up contingency management programs must be aware of desirable responses as well as undesirable responses. They also must take into account the eliciting stimuli, carefully observing what triggers maladaptive response. Often the environment can be arranged so that undesirable cues are minimized, and cues that facilitate desirable behaviours are enhanced.

Contingency management is based on the operant principle that behaviour is influenced by the consequences that follow. For an operant or contingent relationship to be established, reinforcing consequences must follow. If behaviour is not reinforced, it will become extinct. A reinforcer, then, is a consequence that increases the probability of a particular response. Desirable responses can be strengthened through both positive and negative reinforcements. Reinforcement is positive if its addition to the environment produces the adaptive responses.
Reinforcement is negative if its removal from the situation following a response produces the desirable behaviour.

Reinforcers can be social, material or an activity. Social reinforcers include a smile, a hug, praise, attention, approval or physical contact. Material reinforcers can be toys, pictures, or music or consumable items, such as candy and other foods. Tokens, which can then be exchanged for prizes or privileges, are also given as reinforcers. Gold stars are a classic classroom reinforcer and money is always a valued material reinforcer. The last group of reinforcer is called activity reinforcers. In this, we can get people to engage in one activity if you promise them the privilege of engaging in another more desirable activity when they are finished their original work. Common activity reinforcers for children include being read to, recess, games, going first, and watching television etc.

Choosing an appropriate reinforcer involves some careful thought and attention to individual preferences. Careful behavioural observation is an indispensable tool to identifying the best reinforce. Often the stimulus that elicits the maladaptive behaviour gives us a good clue as to the best reinforce. It is noted that for a response to be established, it must be followed by reinforcement. However, reinforcement can be delivered on several bases. Depending on the purpose, some reinforcement schedules are more advantageous than others. Continuous reinforcement is the application of reinforcement after every emission of the desirable responses. Although it is often inconvenient, continuous reinforcement is the quickest way to establish a new behaviour and is very useful in the initial learning
phases. More than likely, reinforcement is intermittent - that is, it occurs reliably in relationship to the desirable response either after a period of time or after a certain number of desirable responses.

In the context of operant conditioning, the primary factor 'stimulus' is defined as "any condition, event or change in the environment of an individual which produces a change in behaviour". It is such a stimuli that have to be sequentially scheduled and controlled in order to reinforce specific responses that form the basic unit of a complex behaviour, which ultimately results in strengthening the complex behaviour.

**Implementation of the Contingency Management Model**

The success of behaviour modification depends on how effectively contingency management is done as a basis for organising environment or for altering the behaviour of individuals. The following procedures are involved in contingency management.

1. Specifying the final performance.
2. Assessing entering behaviour.
3. Formulating a contingency management programme.
4. Instituting the programme and
5. Evaluating the programme.

Programmed instruction is a typical application of contingency management.
II. Goals and Assumptions of the Model

The ultimate goal of any contingency management program is transferability of the behaviour to similar new situations. Contingency management has many uses; including reducing undesirable behaviours such as those associated with hyper dependency, aggression, passivity, depression, withdrawal, and general off-task activities. Contingency management might well be used to reduce maladaptive behaviours, and other behavioural models employed to develop the new skills. This model is also valuable in developing skills, and it is a valuable tool for altering emotional responses, such as reducing fears or eliminating anxiety. This model is also valuable in developing new behaviours' such as academic skills, social skills and self management skills. Finally contingency management is effective in strengthening and maintaining existing desirable behaviours (Rimm and Masters, 1974).

III Syntax

PHASE-1  **Specifying the final performance** - defining target behaviour in terms of behavioural outcomes - specifying the final performance, entails a general recognition that a behaviour needs to be changed or accomplished. The behaviours can involve descriptive or maladaptive habits or actions, or the acquisition of particular skills and knowledge. Before a contingency management program can be developed, it is necessary to specify precisely the behaviour to be altered and the responses to be enforced (or the behavioural objectives, in the case
of subject matter acquisition) and develop a procedure for measuring the behaviour. The behaviour may be measured by specimen description, direct observational reports in which the observer records the time and occurrence of each behaviour, or by time sampling, observing once every time period and noting whether the behaviour has occurred. In this phase, the definitions of the target behaviour and evaluation (or assessment) are part of the same conceptual task.

**PHASE- II Assessing the entering behaviour**- observe and record frequency of behaviour and study the nature and context- actual assessment of the entering behaviour, comes after the target behaviour has been identified and defined and preliminary plans for measuring it have been developed. Sometimes this phase is referred to as establishing a baseline. It is actual recording of the frequency of behaviour; in the case of maladaptive behaviour, its purpose is to confirm the initial diagnosis and give information about the maintaining conditions and stimuli. Thus, it is important to record not only when a behaviour occurs but under what conditions and to whom. Academic behaviours are usually assessed by tests so that students can be placed at the appropriate steps in the learning sequence for their skill levels. The baseline data are useful because they help to determine from where to begin instruction and the rate of progress or effectiveness of the
contingency program. Once the behaviour has been recorded, it is best to plot it on a graph.

**PHASE- III**  
*Formulating the contingency*— taking decisions regarding the environment to be created. Select the reinforcer and reinforcement schedule- to formulate a contingency management program for a particular behaviour or set of behaviours. This involves;

a. Structuring the situation  
b. Selecting the reinforcers  
c. Formulating behaviour shaping plans.

In a classroom, attention must be given to the physical environment, the learning materials, and interactive features, all of which can facilitate the acquisition of responses. The carefully selected material must be highly sequenced with provision of immediate feedback. The selection of reinforcers must be tailored for each person and the planning of contingency management program must account for gradual progress toward the terminal behaviour. The procedure known as behaviour shaping refers to the reinforcement of responses for behaviour that approximate the desired behaviour.

**PHASE- IV**  
*Instituting the programme* - arranges the environment- inform the student - maintain the reinforcement and behaviour - shaping schedules-to institute the contingency management program. This
includes actually arranging the environment, making the contingency announcement, and reinforcing the students’ responses according to the reinforcement schedule and shaping program that have been selected.

**PHASE V  Evaluating the programme.** It is the phase in which the program’s success is validated. Often this evaluation is built into the program and evaluation is facilitated by initially specifying desirable behaviours in precise terms by devising or indentifying measurement procedures. In some cases, particularly in behavioural research, reinforcement is discontinued for a while and then reinstated. Behaviour is recorded under both conditions.

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**Figure 2.6. Phases of Contingency Management Model**

| PHASE I  | Identify and specify the target behaviour
|          | Specify the desired behavioural outcome
|          | Develop plans for measuring and recording behaviour
| PHASE II | Observe, record the frequency of behaviour and if necessary, nature and content of behaviour.
| PHASE III| Make decisions regarding the environment.
|          | Select the reinforcement schedule.
|          | Finalise behaviour shaping plans.
| PHASE IV | Arrange the environment. Inform the student.
|          | Maintain the reinforcement and behavior shaping schedules.
| PHASE V  | Measure desired responses.
|          | Reinstitute old conditions, measure, and then return to Contingency Programme (optional)
IV Social System

The social system of the model is highly structured. The teacher controls the reward system and the environment. The contingency schedule is in the hands of the teacher. But at times negotiating with the people is also possible, especially for self control.

V Principles of Reaction

Based upon operant conditioning and the specific contingency management. Teacher positively reinforces appropriate behaviour according to the behaviour shaping and reinforcement schedule. Ignores inappropriate behaviour or, when necessary, restructure and use time outs.

VI Support System

Support system varies with the type of programme, from no special support to elaborate support. Material reinforces, rearrangement of schedules, activities, seating and sometimes programmed instructional materials, etc. are needed. Greatest human support is accuracy and consistency in applying contingency management. Patience and careful planning on the part of the teacher is also needed.

VII Effects

Contingency management is versatile. Teachers can use it to guide their goals in every domain and to develop their instructional materials. The instructional effects of the contingency management model were;
• Academic skills and knowledge.
• Local skills/behaviour
• Self-management skills/emotional responses
• Personal skills

Figure 2.7

Instructional and Nurturant Effects of Contingency Management Model

Application of Contingency Management Model

Contingency management model finds educational applications in the form of programmed instruction, individual modification programmes and environmental design. Of course, the most common application is the informal use of reinforcement principles for management.

2.8. THE DIRECT INSTRUCTION MODEL

Education in many schools is simply failing. While many mainstream leaders in public education, demand more funding for their failed programmes, their explanations for their failure to teach our children rings hollow. More government
programmes, more social engineering, more welfare, licensing of parents, more self-esteem therapy, more computers—all these “solutions” put the blame on families and society and funding for the failure of public education. These excuses are exposed by sterling success of the schools were a different approach is taken. “If the child hasn’t learned, the teacher hasn’t taught”. That is the philosophy behind direct Instruction, an educational technique that challenges the mantras of modern bureaucrats and shows that even the most disadvantaged children can excel, if only schools will teach them.

The Direct Instruction Model has evolved from the theory of instruction developed by Siegfried Engelmann of the University of Oregon. Engelmann’s works, which focused on beginning reading, language and math, were published by science research Associations in 1968 under the trade name DISTAR. Over the years, the original curricula have been revised and new ones developed through eighth grade. The term Direct Instruction has appeared in educational literature since at least 1920. Earlier authors have not given a specific, detailed definition of the term; in general, “Direct instruction” refers to a rigorously developed, highly scripted method for teaching that is fast-paced and provides constant interaction between the students and the teacher. This method, rich in structure and drilling and content, is the opposite of the favored methods of today’s high-paid education gurus, and contradicts the popular theories that are taught to new teachers in our universities.

Englemann’s theory of instruction is that learning can be greatly accelerated if instructional presentations are clear, rule our likely misinterpretations, and facilitate
generalizations. Based on this theory he and his associates have developed over 50 instructional programs in reading, language, mathematics and other subjects. Each program is shaped through field tryout; student errors are evaluated and lessons revised prior to publication. The lessons are fast placed, carefully scripted, and tightly sequenced.

Direct instruction (or similar terms such as systematic teaching of explicit teaching) is not new. What is new is that the ideas have a research base. The research base comes from experimental studies conducted in regular classrooms with regular teachers teaching regular subject matter. The results have consistently shown that when teachers modify their instruction so that they do more systematic teaching then student’s achievement improves with no loss on student attitudes toward school or self.

2.8.1 Goals and Assumptions of Direct Instruction Model.

Direct Instruction plays a limited but important role in a comprehensive education program. Critics of Direct Instruction caution that the approach should not be used all time, for all educational objectives, or for all students. Despite the cautions and the caveats, direct instruction has a relatively solid empirical record of accomplishment, getting consistently if modest effects.

2.8.2 The Learning Environment for Direct Instruction.

The most prominent feature of direct instruction is an academic focus, a high degree of teacher direction and control, high expectations for pupil progress, a system for managing time, and an atmosphere for relatively neutral affect.
Academic focus means one places highest priority on the assignment and completion of academic tasks. During instruction, academic activity is emphasized; the use of nonacademic materials is de-emphasized or even discouraged, such as questions about self or discussions of personal concern. Several studies shown that a strong academic focus produces student engagement and subsequently, achievement (Rosenshine, 1970, 1971, 1995).

Teacher direction and control occurs when the teacher selects and directs the learning tasks, maintains a central role during instruction, and minimizes the amount of nonacademic pupil talk. Teachers who have high expectations for their students and concern for academic progress demand academic excellence and behaviour conducive to academic progress. They expect more of their students in terms of quantity and quality of work.

A major goal of direct instruction is the maximization of student learning time. Many teacher behaviours found to be associated with student achievement are in fact associated with student time on task and student rate of success, which in turn are associated with student achievement. Thus the behaviour incorporated into direct instruction are designed to create a structured, academically oriented learning environment in which students are actively engaged on task during instruction and are experiencing a high rate of success in the tasks they are given. There are also substantial evidences that negative effect inhibits student achievement (Rosenshine, 1971). Therefore, the teachers should create an academic focus and avoid such negative practices as criticism of student behaviour. In short, the direct instruction
environment is one in which there is a predominant focus on learning and in which students are engaged in academic tasks in a large percentage of time and achieve a high rate of success. The social climate is positive and free of negative effects.

2.8.2 Implementation of the Direct Instruction Model

As its name implies, the “heart” of this teaching strategy is its practice activities; three phases of the model deal with practice under varying conditions of assistance. The three levels of practice function in the following manner:

When the students are first introduced to a new skill of concept, the teacher leads the group through each step in working out the problem. This lockstep method ensures that few errors are produced in the initial learning stages, when memory is most vulnerable to remembering incorrect practice and when errors reinforce incorrect information. After lockstep or structured practice, the students practice on their own while the teacher monitors. During this time, the teacher provides corrective feedback for any errors produced as well as reinforcement for correct practice. When students are able to practice with accuracy, they are ready for independent practice—that is, for practice under conditions when assistance is not available in the environment. Homework is an example of independent practice. This last step in the practice progression is the mastery level; students are performing the skill independently with minimal error.

2.8.4 Syntax of Direct Instruction Model

The Direct Instruction Model consists of five phases of activity:

1. Orientation
2. Presentation

3. Structured practice

4. Guided practice and

5. Independent practice.

Orientation Phase

Phase one is the orientation phase in which a framework for the lesson is established. During this phase the teacher’s expectations are communicated, the learning task is clarified, and student accountability is established. Three steps are particularly important in carrying out the intent of this phase;

i. The teacher provides the objectives of the lesson and the level of performance.

ii. The teacher describes the content of the lesson and its relationship to prior knowledge and experience, and

iii. The teacher discusses the procedures of the lesson, i.e., the different parts of the lesson and student’s responsibilities during those activities.

Presentation Phase

Phase two is presentation phase in which the teacher explains the new concept or skill and provides demonstrations and examples. If the material is a new concept, it is important that the teacher discuss the characteristics of the concept, the rule or definition, and several examples. If the material is a new skill, it is important to identify the steps of the skill with examples of each step. In either case,
it is helpful to convey this information both orally and visually so that students will have the visual representation as a reference in the early stages of learning. The latter is sometimes called a visual representation of the task (VRT). Another part of this phase is checking to see that the students have understood the new information before they apply it in the practice phase. Checking for understanding (CFU) requires that students recall or recognize the information that they have just heard. In structured practice, they will apply it.

**Structured Practice Phase**

The third phase is the structured practice phase. In this, the teacher leads the students through practice examples, working in lockstep fashion through each step of the problem as it appears on the VRT. The students practices as a group, offering to write answers. The teacher’s role in this phase is to give feedback on student’s responses, to reinforce accurate responses, and to correct errors. While working the practice examples, the teacher should ensure that students understand it so that they can use it as a resource during their semi-independent practice phase.

**Guided Practice Phase**

Phase four is the guided practice phase, which gives the students the opportunity to practice on their own while the teacher is still in the environment. Guided practice enables the teacher to assess the student’s abilities to perform the learning task by assessing the amount and types of errors the students are making. The teacher’s role in this phase is to monitor student’s work, providing corrective feedback when necessary.
Independent Practice Phase

Providing time for students to independently practice new skill to the point of mastery is an important component of effective instruction. Thus, independent practice is the last phase of the direct instruction model. It begins when students have achieved an accuracy level of 85 to 90 percent in guided practice. The purpose of independent practice is to reinforce the new learning to ensure retention as well as to develop fluency. In independent practice, students practice on their own without assistance and with delayed feedback. It may be homework or group or individual work in the class. The teacher's role in this phase is to make sure the independent practice work is reviewed soon after the completion to assess whether the student's accuracy level has remained stable and to provide corrective feedback for those who need it. An independent practice activity can be short in length of time and number of practice items; however, it should not be a one-time venture.

2.8.5 Social System of Direct Instruction Model

The social system of Direct Instruction Model is a highly structured one, i.e., the teacher is the center of activity. The teacher directs and controls the learning tasks, maintains a central role during instruction, and minimises the amount of nonacademic pupil talk.

2.8.5 Principle of Reaction

The principle of reaction is governed by the need to provide knowledge or results, help students pace themselves, and offer reinforcement.

2.8.6 The Support System
The support system includes sequenced learning tasks, sometimes as elaborate as the sets developed by the individually prescribed instruction team.

### 2.8.8 Instructional and Nurturant Effects

The model is, as the name applies, ‘direct’. It approaches academic content systematically. Its design is shaped to generate and sustain motivation through pacing and reinforcement. Through success and positive feedback, it tries to enhance self-esteem.

![Diagram](image.png)

**Figure 2.8**  
Instructional and Nurturant Effects of Direct Instruction Model

The most common application of Direct Instruction Model is in the study of basic information and skills in the core curriculum areas. A number of large-scale programs built around direct instruction have been directed at economically poor, low achieving children. The program emphasizes “small-group, face to face instruction by a teacher using carefully sequenced, daily lessons in reading, arithmetic and...
languages" (Engelmann et al. 1998). In the evaluation of Project Follow Through, a federal program that extend Head Start into elementary grades, the University of Oregon's direct instruction model produced more significant differences on both cognitive and affective measures than any of the other major programs (Becker, 1977).

CONCLUSION

The investigator examined in detail the theoretical framework of Models of teaching particularly the behaviour modification models under study. This helped the investigator to frame the topic of study and to adopt the suitable methodology to carry out the study.