CHAPTER III

* * * * * MICROTEACHING AS CONDITIONING PRACTICE AND RATIONALE FOR INTEGRATION STRATAGEY

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3.1.0 Introduction

Microteaching, in its early days developed more as a media innovation area for practice teaching. It greatly emphasized on its innovativeness for using simulation, hard wares, and short time lesson as the advantageous points. Later researches were able to trace their roots into behaviouristic theories of learning. Besides, explanations for different terms used in microteaching were based on behaviouristic learning theories. For example, a part of lesson used for practise refered to as skill, simulation for controlled environment, feedback and rewards for reinforcieve part of conditioning were coupled. Later, developments in microteaching focused on (a) application of analytical model for teaching competencies to form large number of teaching skills, (b) modifying the structure of microteaching programme depending upon the needs of different teacher education curricula (c) their emperical validation in enhancing teaching effectiveness of the trainee. The literature in the area provides limited knowledge regarding a sound theoretical ground for the microteaching programme. This has created a hindrance for researchers to refine the existing microteaching programmes in order to solve the problems rising from time to time.

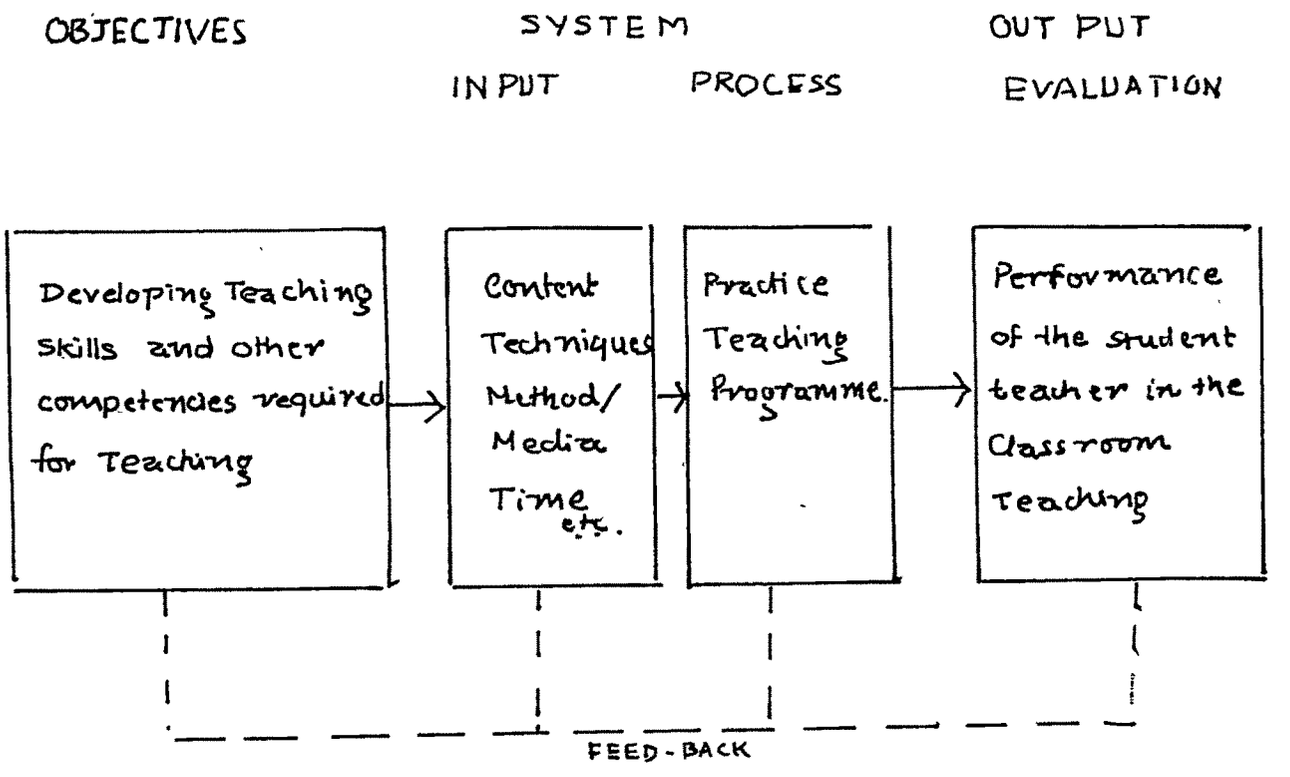
This has necessiciated to form a theoretical frame work. Such a frame work will confirm emperically established relations,

raise doubts about some relations presumed and further provide a deeper insight in furtherance of long and short term research studies and programmes. The present study therefore considers the theoretical frame work provided in the succeeding part of this chapter as the basis for developing a stratagey for integration. In addition to this due emphasis will be given to development of material and appropriate experimentation. Before presenting a theoretical frame work a brief sketch of practice teaching through the behaviouristic approach has been favourably provided. Besides, various behaviouristic terms with their corresponding components of 'practice teaching' as learning situation and analysis of microteaching have also been presented.

3.2.0 Behaviourism

The theory of stimulus response bond formation is the basis for conditioning theories Learning is conditioning. It is a continuous process of forming bonds and modifying existing ones. The strength of bond formation depends upon the degree of stimulus provided so as to illicit responses to the stimulus along with reinforcers and amount of exercises provided. The operant theory of conditioning presented by Skinner is now being worked out extensively for different types of learning. Practice teaching is a specific type of learning situation provided in teacher training

FIG 3.1 PRACTICE TEACHING AS INSTRUCTIONAL SYSTEM



3.3.1 'Practice Teaching' as Learning Situation

All teacher training courses aim at developing a few teaching abilities in teachers. In addition to this, steps for evaluating the extent of learning that has taken place in students is also undertaken thereby providing appropriate stimuli for furtherence of activity. Comparing the learnt behaviour with that of expected behaviour are a few basic abilities taken into consideration amongst them. Learning in educational situation is considered as arrangement of contingencies to change the behaviour of learner to specified direction. Practice teaching is a learning situation. This statement can be supported by the following characters of practice teaching.

1. There are specific goals, objectives set for the practice according to the level of performance.
2. The practice teaching curriculum is an deliberately organised environment to achieve the goals.
3. Student teachers experience varied environmental setting and respond to them.
4. Student teachers are evaluated and compared with the expected performance.

When these characters are considered together with the behaviouristic outlook, the following assumption can be derived, which form the basis for the teacher behaviour studies, especially for microteaching studies

3.3.2 Behaviouristic Approach applied to Practice Teaching

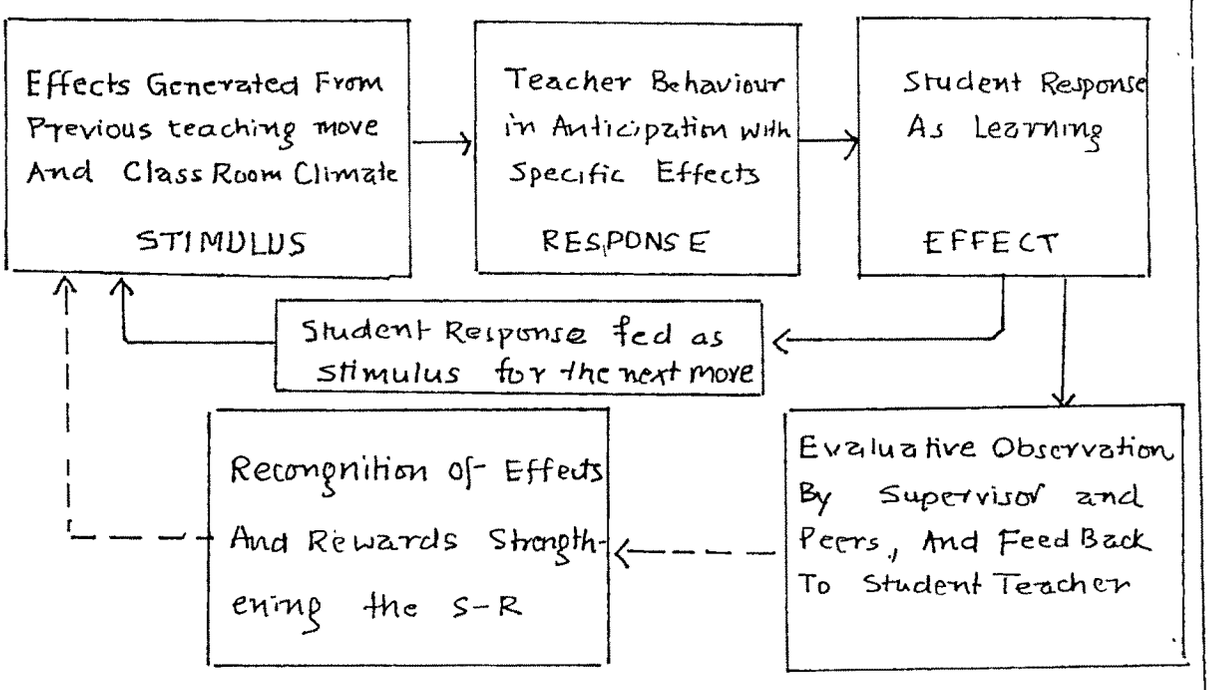
1. The student teacher while is, as a respondent teaching is in a state of response condition, he performs a series of responses to arrive at expected behaviour.
2. These teacher behaviours can be recorded as sequential units of behaviour.
3. Every teacher behaviour can be related to the pre setting (stimuli) and post effects (rewards).
4. Every behaviour of teacher is a deliberate behaviour under the process of conditioning.
5. The teacher behaviour can be regulated by manipulating the post effects and feedback.

3.3.3 Practice Teaching as Operant Conditioning

Considering the student teacher as a respondent, the practicing class room as laboratory and teacher educator as the conditioner, the following operant conditioning principles can be applied:

1. While practicing 'teaching' in class room student teacher on facing a large number of sequential stimuli one after another generated by class room conditions and student responses.
2. Student teachers respond to the stimuli in anticipation of specific effects. On the part of a teacher, his teaching consists of sequential responses to the stimuli in anticipation of sequential responses.
3. Each stimulus appearing in the class room is due to the cumulative effect of the student teacher's prior responses and class room climate.
4. Recognition of specific stimulus in the class room responding to the stimulus, and the effects perceived is a single set of events forming a unit of teaching.

FIG:3·2 OPERANT CONDITIONING STEPS IN PRACTICE TEACHING



5. Student teachers' recognise each unit of teaching experiences along with the effects and link it to a similar unit in his further practice in continuation of his 'teaching' conditioning processes. Greater the amount of sterotype units practiced greater will be the conditioning.
6. Observation and recognition of expected behaviours soon after the response action acts as an reinforcer in the 'teaching' conditioning process.
7. In evaluating the effects of his responses, the student-teacher not only depends upon what he recognises as effects in class room but also on supervisors and peer group feedback.
8. As the student-teacher conditioning becomes stronger to different stimuli, he undergoes the process of stimulus-descrimination and stimulus-generalisation by teaching a higher level of stimuli sensitiveness to responses and identification of effects.

3.3.4 Learning of Teaching Behaviour

Basically the 'teaching' learning differs from other types of learning in response evaluation. In case of aiming to shoot the bulls' eye one has to observe the bullets marks on the cards to ensure the correctness of response, there is no other interfering components between the learner's response and effect observation. In teaching the effects are in terms of change in child behaviour. The changes here are not always clearly observable due to many interfering variables like child psyche, or other conditions involved during teacher response i.e. lack of adequate knowledge in observing child responses etc. It is

likely that the effects observed by the teacher, through peers and by supervisors may have a large number of errors due to interferences mentioned above. Because of the phenomena the conditioning process requires a large number of instances then than of a normal task which only involves non-human interactions.

3.4.0 Psychological Terms in Operant Conditioning of 'Teacher Behaviour'

In explanation of learning through operant conditioning psychological terms like covert-overt behaviour, stimulus generalisation and descrimination feedback to respondant in terms of 'knowledge of results' etc. are used with specific meaning. While applying operant conditioning mechanism to the teaching behaviour the specificity of these terms have to be maintained keeping in view the teaching context. The following presentation is to provide the meanings of these terms in the present context.

3.4.1 Covert and Overt Behaviours in Teaching

Teacher behaviours to be modified are both covert and overt in nature. The covert behaviour involves recognising the stimulii and making a chance of response. The overt behaviour will be a psychomotor cumulative one that the teacher performs after his choice of response. One S - R unit of teaching will have, recognising of stimulus in class room as covert behaviour, making choice of response behaviour as covert behaviour, and performing

the communicative act to send the response behaviour to child as overt behaviour. Out of this sequence, the last one is apparently observable by the peers and supervisors. The S - R units that appear in class room teaching with all covert and overt acts are so fast that it requires high sensitivity for observation. The teacher, teaching may also find similar problems if he has to retrospectively analyse his behaviour. Yet as a humanbeing teacher carries the S → R creating retrospective distortion. Due to limited capacity of human beings to observe the teaching in terms of covert and overt behaviours and S - R sequence the teaching system is difficult to comprehend. During practice teaching application of this behavioural theories while planning, observation of teaching, at the time of feedback becomes sophisticated.

During practice teaching, student teachers are to be modified for their teaching behaviours. For suggesting the modification, one should be able to diagnose the weak aspect and provide alternative behaviours required. The diagnosis part has to be critical in locating whether the modifiable part is covert behaviour or overt behaviour. For instance, there can be situations wherein : (a) The student teacher is improper in selection of covert as well as overt behaviour, (b) he may be improper in covert behaviour and proper in application of overt behaviour, and (c) he may be improper only at overt behaviour stage. In all the three instances for an external

observer situation appears more or less the same whereas the nature of corrective-training has to be different. An interactive feedback session with student teacher, soon after the lesson, becomes inevitably essential in order to locate the modifiable behaviour

3.4.2 Stimulus Generalisation

Generalisation occurs when the learner fails to descriminate among stimuli which are used to produce the gradient. In other words, generalisation occurs when the learner finds it difficult to descriminate among closely related stimuli. In practice teaching situations during the earlier period of training, a student teacher considers every act of his practice in teaching as seperate highly individualised S - R units. Progressively, he will be able to compare and contrast different stimulus and relate his mode response and effects observed leading to the process of generalisation. This demands that during the practice teach session a student teacher should be provided with a large number of practice sessions with variety of varying stimuli. Once the student teacher attains a satisfactory level in the formation of varied clusters of stimuli, as well as an ability in differentiation, he will be able to handle the class extemprorly with ease. During the training process, to enhance this ability, providing feedback by supervisors, peers will be of great help. Feedback discussion should therefore, deliberately focuss on the ability of stimuli generalisation and discrimination.

FIG: 3 3 STAGES IN LEARNING 'TEACHING'

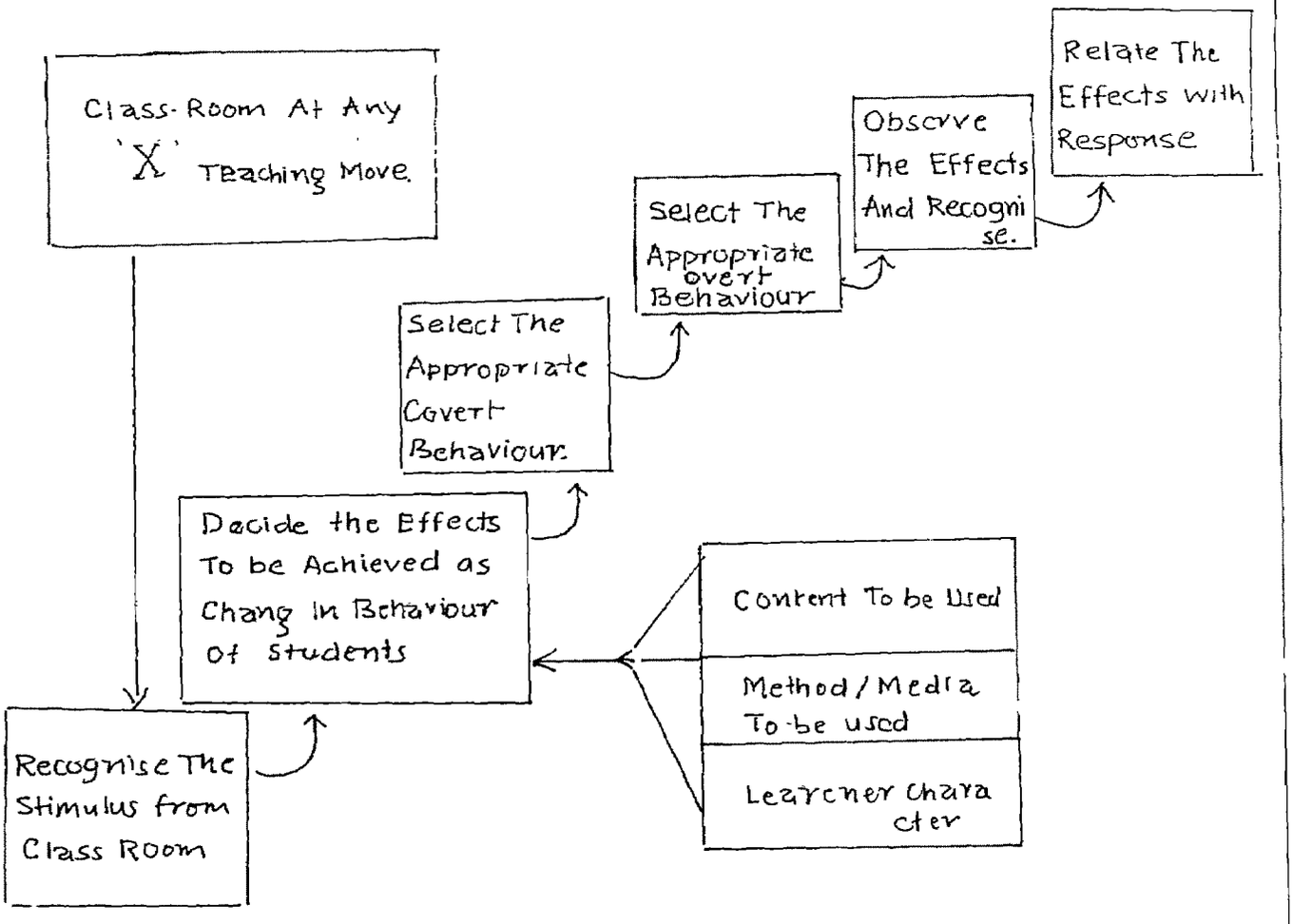
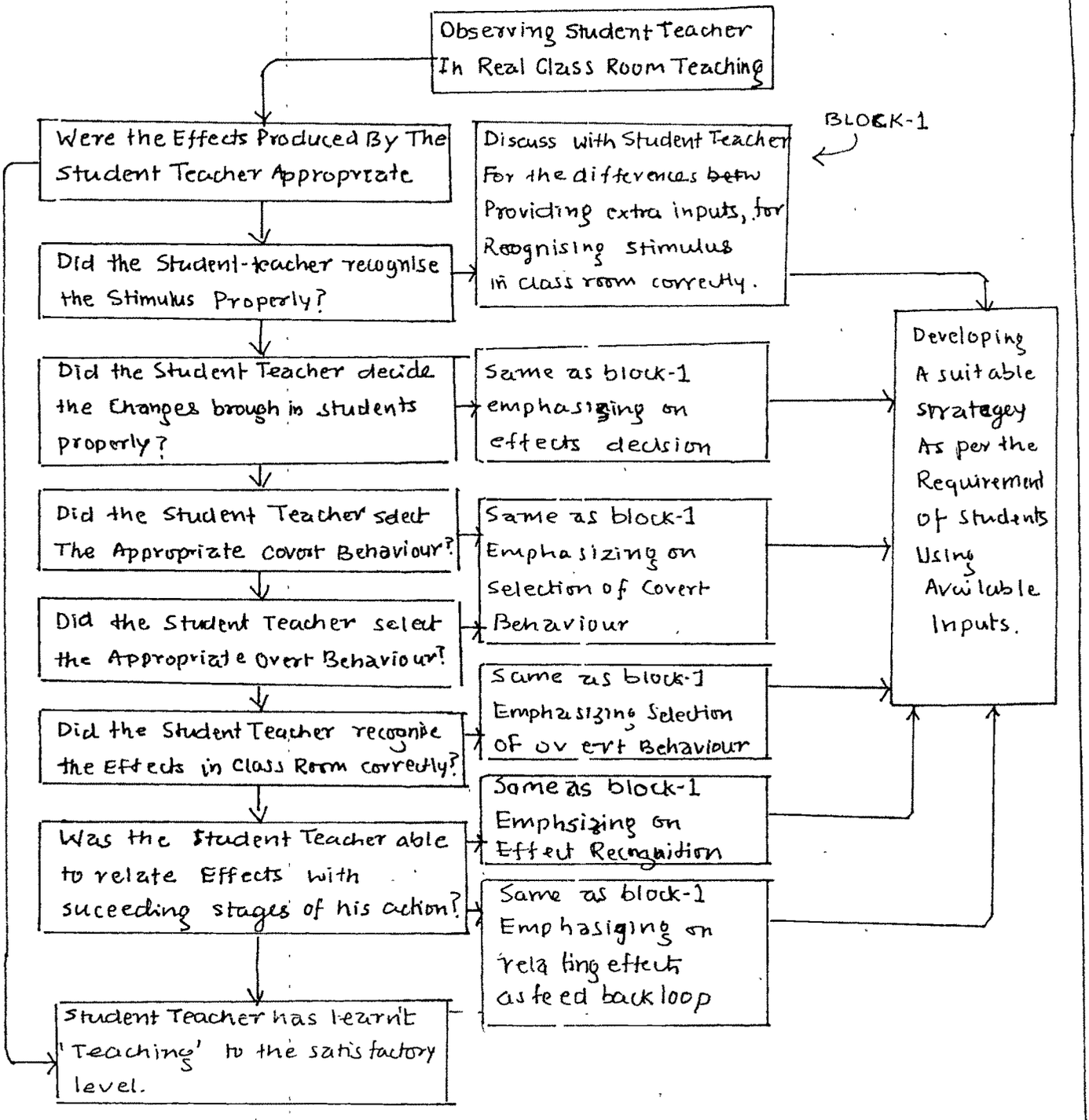


FIG: 3.4 CORRECTIVE TRAINING IN LEARNING 'TEACHING'



3.4.3 Feedback Mechanism in Conditioning Practice Teaching

Taking into consideration, the concepts of covert, overt behaviour and stimulus generalisation in practice teaching, the feedback to be provided has to be in accordance with the expected attitudes sought. During the teach sessions, the observers are able to record the stimuli of class room and overt behaviour that appears from the teacher. The effectiveness of the teachers' overt behaviour in teaching, can be evaluated only when the external observer is clear about the teacher's extent of identification of stimuli carried over, the decision one has taken as the mode of response is with regard to the student teachers overt behaviour exhibited as response, and also on the effect a student teacher is able to identify from the target group. These sequential steps can be collected as data for discussion only when the supervisor interacts with the teacher, analyses his lesson plan, and takes into consideration the goals set for teaching. Such an outlook on the whole provides a large number of varied techniques for practice-teaching. Further, practice teaching has a potential to organise the sequential stagewise development of a lesson like, (a) exposing the student-teacher to class-room teaching sessions as an observer with a feedback session in order to develop his ability in identifying the varied type of stimuli to have occured in the class room, (b) to identify a series of programmed episodes of teaching presented in the form of a script or a video film, terminating his lesson with a question to student-teacher in order to decide

the mode of response he will take to continue to develop the ability in his decision making for response (c) Providing teach sessions where the lessons which are well discussed about the type of responses to be carried during the class with emphasis on observing the student teachers' overt behaviours, to develop the ability selecting suitable overt behaviour in relation to his covert behaviour already decided over.

3.4.4. Conditioning as Teaching Effectiveness :

The effectiveness of teaching depends upon the strength of conditioning obtained by a learner in conducting a teaching task. The teaching task involves from sensitivity to recognising the stimuli stage to further performing the overt behaviour. The effectiveness is measurable with greater confidence when he is tested with more variety of stimuli prevailing in classroom. As any other learning, teaching effectiveness is also a continuum form ranging from conditioning phase to a very higher strength of S - R bonding. Due to differences in individual learning, one teacher may have stronger S - R bond to a specific genera of stimuli compared to others. The extinction of conditioning does happen in teaching due to lack of exercises however, if the need arises it can be further strengthened with comparatively few exercises as compared to the earlier stage of conditioning.

3.4.5. Rote Learning in Teaching :

Student teachers during practice-teaching are provided

opportunities to teach in the real class room. During this stage, they are given a class, a specific content and alotted time duration. The student teacher will be knowing the learners characteristics also to some extent. Keeping all the class room variables in view he prepares the lesson plan taking guidance from the supervisors. He will teach the prepared lesson and further seek feedback from supervisor. During these stages if student teachers presume the guidance provided by supervisor, as prescriptive to only that instance and in isolated form, the influence of the instance in teaching conditioning will be limited. He is bound to operate in a mechanistic form. The success of a teacher in doing that particular lesson contributes a limited influence in the conditioning process resulting into rote-learning. In contrast to this, a student using similar opportunities to develop an ability to identify various conditions of the class room thereby descriminating one situation from another for using teacher behaviour, will have meaningful learning-teaching.

3.4.6. Learning Practice for Teaching

During conditioning process, the learner has to be provided for a prolonged duration exercises over the same S - R instances. It is equally important to provide different shades of the stimulus in operation for strengthening the S → R relation. If the learner is to be conditioned for different variety of stimuli, they should be graded and sequenced by better strengthening and retention effects. These principles apply in learning teaching also. While conducting the practice teaching, the organisers have to

identify different types of teaching units, their difficulty level, their importance in teaching, their occurance in a teaching system. In addition to this there has to be a programmed sequence of practice lessons by regulating class level, content difficulty, students abilities and objectives of lesson.

3.5.0 MICROTEACHING - A BEHAVIOURISTIC VIEW

The three principles of behaviouristic learning mode are (i) an analysis of complex task into successive sub-tasks (ii) an arrangement of contingencies, (iii) a successive approximation. Microteaching programme has used these three principles in its development as a programme. Here the teaching behaviours of teachers are analysed in a number of teaching skills forming sub-tasks of teaching competency. The deliberate use of simulated practice has provided enough scope for arranging the learning setting so as to facilitate the learner-teacher. The feedback sessions immediately following the teach session on concrete points of his performance has built the reinforceive component in the programme. Freedom in selection of content, simplification of class room situation to a five minute class involving very few peer-students and practice of single skill acts to simplify the task and provide enough prompts to the learner for successive approximation.

Cliff (1976) described microteaching as having three main phases, (i) knowledge acquisition phase, wherein, observation and discussion of demonstrations on skills will

be the main components, (ii) skill acquisition phase wherein preparation of microlesson, practice of skill and feedback are the components (iii) transfer phase with real class room teaching. These graded phases further clarify the application of behaviouristic principle in developing the programme.

Skinner in some of his studies, applied the operant conditioning principles in school situation through programmed learning material with the help of teaching machines. David Zeaman (1962) further made a critical analysis and application of these principles with variation in reinforcement. The basic contention of these psychologists were to apply these principles at microlevel viz. for each experience that how to be presented in the form of learning frames. A similar attempt has been made in the succeeding presentation to analyse the microteaching programme in terms of operant conditioning principles. The microteaching model has (i) orientation for skill (ii) planning (iii) teach (iv) feedback (v) replan (vi) reteach (vii) refeedback as different phases. The last three phases are repeatative in terms of process as compared to the earlier three corresponding phases.

3.5.1. Orientation for Skill :

During this phase the student teacher is exposed to basic units of teaching through lectures, demonstrations and films. Further, the student teacher is exposed to a specific set of teaching units called, skill. The exposures will include adequate number of class room units as illustrations of the generalised basic units. Considering, 'orientation'

from the point of training methodology, the student-teacher will be undergoing through the behaviouristic learning as passive learners. The student teacher is presented with the basic units of a skill comprising the expository technique. Each basic unit is presented with analysis of its stimulus phase, response phase, and effect phase. The student teacher will recognise each of these stages in related fashion so as to form a conditioning for the stimuli with the responses. In case the student-teacher is not convinced about the appropriateness of a specific response he will discuss it with the supervisor. The supervisor will provide enough examples to clarify different stages of the basic unit. The following is an example which is taken from the skill of probing questioning.

The generalised form of basic unit is on seeking further information components is as follows :

Stimulus Stage	Response Stage	Effects
Teacher recognises the situation where in he has to get specific information from students	Identify student who can provide information and ask him questions to elaborate the teaching points, or anything else he knows about the specific aspect etc.	Students are able to provide information And teacher collects or summarizes for further teaching
Example : Soils		
Teacher recognises the the situation needs listing of different types of soils, and student have some knowledge as their first hand experience	Teacher asks questions: Q_1: What coloured soil is found in our country ? Q_2: What coloured soil do you find on the cotton field ? Q_3 : What other colour soils have you come across ? Q_4: Any more type ?	The students respond and and summarisation will bring information that; Soil is of different colours like brown, black combination of two and other

3.5.2 Planning

During the lesson plan stage, a student teacher is expected to prepare a sequence of basic units of teaching for which he has been oriented in the first stage. Student teacher will further write a small lesson script which he thinks appropriate. In writing the plan, he will be setting a specific stimuli and providing a decision, which he considers appropriate and anticipate effects in the form of student response. Considering the student response decided over, and the content context, he will be able to recognise the succeeding stimulus and continue the cycle. Following this process a sequential number of stimuli are generated and response conditions are decided. Comparing this stage with the orientation stage, the student teacher is actively involved in the process by applying the comprehension of basic units introduced to him. However, his acquisition about basic units is in simulation stage only. Simulation is far from reality, wherein, he observes the effects of his response and evaluates his ability. At this stage the student-teacher evaluates his responses on the basis of supervisors remarks, which acts as knowledge of results (K R).

Training methodology wise, in this phase the student teacher gets practice in framing his responses and anticipated effects to a class of stimuli through paper-pencil practice.

The supervisor intensively discusses with the student-teacher, regarding his framing of responses and provides appropriate guidance as a corrective feedback, modifying the S-R relation helping to frame more realistic basic units of teaching.

3.5.3 Teaching :

At the teach stage, the student teacher will execute the basic units visualised as paper-pencil work in the previous stage. The task becomes difficult compared to the planning stage due to the addition of a few more sub tasks like executing the responses overtly as performance to a group of learners, and evaluate the effects to the response. The task becomes further complicated, as the teacher has to accept those set of stimuli for which one has not planned, and execute the teaching behaviours instantaneously. During this stage the student teacher is exposed to all the steps of basic units viz. recognise the stimuli in the class, decide the action of covert behaviour, form appropriate effective behaviour, execute, recognise the effect and furtherance to the succeeding basic unit of teaching unit. The effects are instantaneous soon after the teacher's response and require speedy participation on the part of student teachers.

In microteach programmes the teach session is simulated to the extent that, the learners are demies. The responses provided by the learner are not the exacts of reality but approximations and facilitative to the student-teacher.

3.5.4 Feedback :

This is the most crucial session of the programme, so far as conditioning is concerned. A complete understanding of the class room effects for different basic teaching units and reinforcement from supervisor and peer student teacher are provided at this stage. The student-teacher during teaching, recognises class room effects for his responses with a limited knowledge he has about teaching. During feedback session, he gets additional understanding from the supervisor and the peer observers. This sort of feedback regarding the class room effects can be regarded as knowledge of results (KR) used in conditioning processes.

The nature of feedback session should be like post facto analysis. Every participant at teach session will have a partial knowledge of the complex teach session. The teacher-trainee will put across his various basic-units he tried out along with the intentions he had. The peers will provide their perception on the teaching point carried out. The supervisor will diagnose the relative efficiency of basic units practiced by the student teacher compared to his pervious performance as well as his colleagues. The feedback will play the role of delayed feedback to the student teacher, since the student teacher remains still a novice to comprehend the effects of his practiced basic-units during teach session. For the peers the teach session is of importance as a case demonstration.

With the feedback session the cycle for a teaching unit completes. The same cycle can be further considered for strengthening S - R bonds too. The furtherance of micro teach programme as replan, reteach and refeedback is of recycling nature. In the recycling phase the same analysis holds true as presented for, plan, teach and feedback sessions.

3.5.5 Criticism on Microteaching Programme

Some details given in the previous session are based on theoretical considerations. This analysis forms the basic structure upon which the organisational and programme materials are to be built. A variety of microteaching programmes and material is already available and is extensively being used. The present microteaching programmes however have blocked the progress by problems encountered. A critical analysis of present microteaching programme in relation to the theoretical frame work is provided. This programme will open ways for overcoming hurdles in the microteaching programme. The critical analysis also works as a tool to test the strength of theoretical frame presented. The emperical evidences derived from field, if found fit, will strengthen the theoretical propositions. It will also raise a few problems in both theorisation as well as in practising throwing more light on the programming.

Before entering into criticism, it should be noted that, the student teacher will be considered as a learner, and the micro-teaching as a structured curriculum to achieve a set of objectives,

mainly to develop the skills of class room teaching. The learner's characters like, (i) an innate drive to communicate to the students (ii) to get rewards (grades and marks) and praise from supervisor, and (iii) group praise as social receptance are heavily depended upon as the motivational inputs in the programme. Further, the basic tasks during the instructional system will emphasize providing understanding of relations between (i) class room stimuli and specific teacher behaviours, (ii) stimuli and specific decisions of action for responses (iii) decision of response and exhibiting appropriate overt behaviour and (iv) evaluating the effects through student responses. The behaviouristic theory of learning applied in the instructional system will presume the stimulus as all the sequential pace making instances, where in, the teacher has to bring about his behaviours, the stimulus is the cumulative effect of many dimension of class room viz., the proceeding teaching move, the content move, the method of teaching applied, and learners involvement. The teacher behaviour to the stimulus will be the response stage. The change in behaviours of students will be the effects. The effects are received by the student teacher from the learner's response, the supervisors remarks and the peer remarks. Following are the criticism arrived at by observing the present microteaching programmes in Indian institutes.

(1) The basic focus of the implemented microteaching programmes is to produce specific overt behaviours specified for specific

skills. Further its execution is emphasized. The present system presumes that there is no requirement of objectives for the teach session. This underlines the covert expression part. The observation schedules consider the number of times a particular act occurs appearing and non-appearing, and its quality is measured without taking into consideration the very purpose of the act. The teachers ability to teach in the class room depends upon his ability to decide on the goals, sense the stimuli, where in, he is supposed to intervene and teach, decide for particular mode of behaviours, execute the act and evaluate the performance. In the present system only one step is focussed on viz. execution part undermining the rest.

(2) As stated before the present programming involves feedback through frequency recording and qualitative recording. In a majority of teacher training institutes the frequency recording is the only scheduled used. The feedback is provided for 5 minutes using observation schedules. This mode of feedback has structured the discussion to only predominate on the amount of specific behaviour explicit in the teaching rather than focusing how and why some particular type of behaviours are appropriate or not. It may be recalled from S - R theory that understanding the response - reward relation through feedback happens to be of crucial importance. The feedback discussion should aim at providing the teacher with, how specific type of responses were able to provide appropriate effects, and some were not. If there exists a

difference of opinion between supervisor, teacher and peer observers on the teaching units perception, the group should aim at resolving to unified understanding as far as possible for the specific contexts. Quite often such a quality prone discussion require more than five minutes. Since feedback is crucial in changing the behaviour of a teacher, limiting the feedback to five minutes where responses are highly quantitative, it reduces the effectiveness of programme.

(3) Different schools have presented different set of skills as practising units. They differ from each other, in terms of the number of skills, the clustering of class room teaching components and the dimensions of teaching. There is no criterion on which they can be evaluated and compared. The skill sets in this regard have become a matter of convenience . The present programmes include a few skills from the set for practise, ignoring the rest. To provide a scientifically analysed set of skills, requires to effectively develop a taxonomy for teaching skills and their basic units of teaching.

The skills used at present are presented as per the expectations of the teacher as explicit behaviour in the class room. The student - teacher has to exercise to understand why does a specific behaviour has to be exhibited, how is it related to achievement of objectives, which are demphasized in the text. By doing so the decision making component of skill has been undermined.

(4) The present microteaching programme rigidly follows the steps viz. plan - teach - feedback - replan - reteach - refeedback. The skill to be practised are not the same in terms of their nature and difficulty level, for instance, some may require groups of peer students to practice and some may not, some may lay emphasis on psychomotor acts and some on cognition. Depending upon the type of skills involved, the setting of practice and the duration of time to be altered. This demands a flexible model of microteaching with structures specially evolved for specific skills to be practised.

(5) The present model prescribes feedback to student-teacher after every teach session. The student teacher has to wait till he exhibits his performance at teach stage. The teaching skills are developed gradually form the orientation stage to teach session stage. Discussions soon after orientation, and after planning stage can be potentially tapped to bring about cognitive changes economising on the various inputs of the model.

3.6.1 Integration - Conceptual Development

Integration of teaching skills is comparatively of recent importance. With the use of microteaching techniques and skill based training in teacher training courses, problems of the transfer of skill training practice to actual class room has become intense. As a solution to the problem the need for integration is called for.

In the following section a few conceptual understandings of different investigators are analysed for conceptual comprehension.

Griffith (1972) perceives integration as an arrangement of learning experiences to bridge the deliberately structured differences between micro and school teaching situations, so as to encourage transfer of acquired skills.

Considering this view, in relation to the analysis provided for microteaching in this chapter, integration can be taken as a step required to bridge the gap between the simulated situation and the school situation, i.e. the class room stimuli for teaching in simulation, the effects in simulation differ to some extent with the real class room stimuli and effects. The student teacher not being able to recognise at school teaching the stimuli similar to the one he practised and not able to have the effects as in simulation may tend to reject his conditioned basic units of teaching from microteaching. This results in non-transferability of teaching skills from micro practice to class room situation. In this case integration as an interphase has to extend certain inputs which can help the student teacher recognise the similarities between the stimuli that he has practised at simulation and the one appearing in real class room. Similarly he should be helped to extend his experiences about class room effects, class room climate from simulation to actual class room teaching in school.

Hargie et al. (1979) provides his miniteaching model which incorporates integration as one of its important dimensions. This model in addition to microteaching features, incorporates provision of knowledge and practice to find the inter skill relations, i.e. progressive increase in the duration of teach time, and progressive increase in the number of learners during teach session.

The inputs related to inter-skill relations help the student teacher in the process of stimulus generalization and descrimination at a broader level wherein the teacher has a freedom to use any of the teaching behaviours, without any limitation, as existing in the microteaching phase. The progfessive increase in the number of students at teach session increases the reality and complexity of class room in the graded form. Similarly the increase int time for each teach session provides an opportunity for planning and executing teaching for longer period demanding longer period involvement in the teaching task, the resourcefulness to extemporarly decide for unplanned activities, and the flexibility in teaching behaviour application.

E.J.Donald (1976) describes 'integration as the development of a pattern for practise, rather than skill, which accounts for a total effectiveness within the teaching situation. A search for a suitable pattern is an essential task after developing the skills. This implies that, once the student teacher has mastered the different basic units of teaching he will relate and sequence these different basic units to form S - R chains. This type of

chain formation which Hargie refers as pattern formation can be very much compared to the standard stratagic moves of chess game. The student teachers during integration will be expected to recognise different teaching patterns used by different teachers and discover for him_self a suitable pattern which can be often used in class as a S - R chain response. The pattern formation will not be skill specific but will cut across all teaching behaviours the teacher has while aiming to attain the instructional objectives set for the purpose.

Joshi and Kumar (1983) described the role of integration as a step to develop the ability of decision-making. This refers to the decisions regarding the set of skills, their proportion and their sequencing, so as to maximise the achievement of instructional objectives, set by the teacher.

Das et al. (1982) defines integration as the process through which a teacher acquires the ability to select and organise the teaching skills in the desired sequence to form effective patterns for realising the specified instructional objectives and use them with ease and fluency.

This explanation is similar to the formation of teaching patterns refered to by Donald. Das et al. (1982) identifies four stages in the application of the teaching skills with integration, as (i) perceive the given teaching situation (ii) examine the reportiore of component teaching skills with him (iii) select and organise them into a sequenced pattern of the component skill to

realise the instructional objectives and (iv) use the component teaching skills in the desired sequences patterns with ease and fluency. Das et al. (1982) presents three models for developing integration viz. (i) summative stratagey (ii) the additive stratagey and (iii) the diode stratagey. These three models differ from each other in the number of skills to be taken at a time - for practice and the sequence of skills to be taken for practice. All the three models basically believe in the selection of a few skills and practice as a bunch once again. They do not explain theoretically how the three models differ from each other in developing the ability of integration.

3.6.2 Integration - in the Present Study

The stand point taken in the present study, is to consider how the concept of integration is arrived at. This can be attempted by reviewing the theoretical analysis carried for teaching and microteaching and the various explanations provided by different investigators.

Integration is the ability of applying the conditioned behaviour from a microteaching setting to the real class room setting for achievement of the objectives set for teaching. The microteaching and real class-room teaching differ from each other on the view point of various aspects. Some of them coming in the way to transfer of teaching skills to real class room are enlisted below :

In a microteaching setting the student teacher is provided with freedom to decide about selection of behaviour from a very limited number of behaviour in terms of skill components. His execution of overt behaviour as responses is accepted presuming the effects by learners of the teach session, the student teacher is encouraged to create a suitable climate in the class-room by producing encouraging behaviour from fellow peer-learners, the teaching behaviours under practice are analysed for their performance only in relation to the specific basic unit of teaching. This is taken care of specifically under practice without comparing possible alternatives available, the classroom conditions like discipline, classroom management, consideration regarding previous knowledge of learner and learner characters are overlooked to great extent, the method of teaching is prescriptive during practise of skills. Teaching tasks are carried for a limited duration of five minutes periods comprising a small group of five students thus eliminating factors like long time concentration, consistency in the flow of content points at a broader perspective etc.

In a real classroom teaching situation the teacher has no specific direction to use components of one skill but to decide a best possible alternative from the reportiore of behaviours he has. When the teacher executes his decision in a real classroom the learner may not accept his response to

show presumed suitable effects, the effects will no more be presumed to furtherance teaching but have to be based on the effects created by the learners. The impact of his teaching will be no more based on isolated basic units but as cumulative effect at a broader level. The learner will be the centre of class room teaching unlike in micro-teaching wherein the student-teacher is at the centre. The teacher has many more decisions to take unlike micro-class but concerning classroom management, creation of congenial class room climate, and further decide over the methodology. The teacher has also to teach for a longer duration of time comprising a large group of students.

The class rooms, a teacher faces in schools, are all not stereotype in character. A class may differ from another class and may undergo change in itself in due course of time. The variable that brings about change within classes are, the age group of learners, the motivational level of learners, the previous achievement of learners, the group cohesion, the physical facilities available in class, the class hour timing and length, the class size, the school and class room discipline, the sex of the learner, the location of school and school character etc. The various degree level combinations of these variables create a large variety of classes. The teaching that suits one class need not necessarily apply to others. The teacher has to be sensitive enough to recognise the class character and devide his mode of behaviour for teaching. Integration of skill requires the

ability to locate interclass differences and application of appropriate pattern of teaching behaviours.

As mentioned earlier integration will be an ability of applying the conditioned behaviour acquired from microteach session to real class room. To achieve this the teacher finds limitations of the variations and new dimension unseen in microteaching. Naturally, integration requires the teacher to be familiar about these new dimensions and complexity of class room and tryout his skill competencies in different type of classes with addition of new variables. The student teacher in these situation is to understand the variables that are added to the previously simple class room conditions, and experience their influences. The experience to be provided to a student teacher has to be systematically analysed, aiming neither to jump in realistic situations directly nor to mechanistically increase the skill numbers to practice but to provide each new dimensions step by step aiming at understanding, and applying skills in the presence of the new dimensions.

In other words, if student-teacher has to make decisions regarding methods of teaching as an additional aspect in real class room, an input planned to provide relation between skills and different methods of teaching, their interdependency, their role in the achievement of objectives etc. are to be provided and practised. Similarly, about the rest of the variables mentioned like, effects evaluation from students response,

class room management, change of teacher behaviour, depending upon learners previous knowledge, motivational level etc. requires deliberately planned inputs as part of integration. The detailed input development and specifications are provided for the present study in the last section of this chapter.

3.6.3 Integration Models

Das et al. (1982) has presented three structured models of integration, (i) diode model (ii) additive model and (iii) summative model. Besides, Jangira et al. (1979) has presented subsumption additive teaching model part from these major models mega teaching, miniteaching also provide some guidelines for integration. The detailed description and diagramatic representation are given in the review chapter. These models have not been very successful in providing integration stratagies for applying in the field as presented in the review (page 92). Considering the analysis of practice teaching, microteaching and integration concept, presented in earlier part of this section, the models suggested are critically studied to find out their short comings which are detailed in the following section.

3.6.4 Criticisms on the Integration Models

(1) Microteaching is an essential programme to present the teaching exercise in a simplified form for a novice teacher. The teaching task is analysed into simple sub-task and a suitable simulated environment is created which will be different from reality so as to provide a smooth entry to practice teaching.

A student teacher trained through microteaching will be unaware of the same complexities that are eliminated during practice. During integration the student teacher has to be made conscious of complexity so as to use the acquired skills in reality. To achieve this task the microteaching format has to be replaced with inclusion of those aspects of class room which have been untouched. The models so reviewed invariably follow the microteaching model for integration. With a few basic changes like, number of skills to be practiced at a time, class size and teach time. Due to these pressures the student teacher remains still unaware of the reality after the integration programme. The integration models should come out necessarily from microteaching format and study the problem through a new perspective. Studies from educational technology, application of systems approach to develop the stratagey by analysing the problem, framing tasks and subtask, selecting method and media afresh etc. will be great help to arrive at a scientific stratagey for integration of teaching skills.

(2) Scientific endurance is initiated with an intellectually arrived at hypothesis or a theoretically arrived at solution to a problem. This is further validated emperically to support the intellectually arrived hypothesis as a tested result. Incidently available emperical evidences for a randomly selected solution, though tasted, are usually rejected due to non-conformity from the theoretical grounds. The models provided for integration as alternatives viz. additive, diode, summative are all possible

graded forms using a number of skill at a time during teach lessons of microteaching model. There is no reasoning as to why one alternative may be considered to be better than the other. In case of availability of emperical evidences favouring one alternative against the rest will not be acceptable due to lack of theoretical rationale for the models proposition.

(3) The sum of all the parts need not necessarily represent the whole, is a common criticism against behaviouristic approach. The integration being a whole formation process has to necessarily be able to incorporate interactive aspects involved in teaching. The interaction amongst the skills along with other dimensions of the class room will have an important role in integration. The present model does not incorporate such inputs.

(4) During microteaching in order to accelerate the conditioning process, the exercise on selected skill components is increased by guiding students to select appropriate content and to exhibit the specified component as often as possible, while teaching. Although helpful to practice skill component within short time, it may further create problem at the integration stage. Student teacher may tend to apply a few selected skills more than the required amount. To monitor the situation, the student-teacher should be provided enough opportunity, deliberately bringing to their notice the normality of occurance of skills and their components, further their relation to instructional objectives, and other dimensions of class. The present models do not present specified inputs in this respect.

(5) The integration models have made efforts to increage the class size, teach time, the number of skill components to be used, gradually so as to bring these variables of class room to reality. Similarly it requires to replace the peer-learner through real learner and skill component evaluation to instructional objectives achievement.

(6) The presently available integration models do not provide instructional material which provide directions for supervisors and student teacher. It may be recalled that, during the use of Flanders Integration Category Model for training a definite ratio of teacher behaviour were set through research. They provide directional indicators for training. They help supervisor and student-teacher about the ⅄ line of action to be taken for further improvement. In case of microteaching and integration such directional informative materials are not available. The occurance of particular skill component to what an extent has modified his teaching ability remains unanswered throughout the microteaching and integration phase. This demands the integration-training material providing specification for guiding, practising, evaluating and set format for feedback etc.

(7) The skillbased training approach presumes, everything that falls under teaching competency can be analysed into skill, and providing these skills to an expected level will be the objective of the training programme. In such situations the programme requires an analysis of the major essentials of teaching in skills and validation for its exhaustiveness. The present skill sets do

not incorporate major dimensions like content structure and its relation to teaching behaviour, methodology of teaching etc. Training a few assorted skills to teacher and expecting them to apply them in the real class room with no adequate practice with the rest of skills and related class room conditions will have shortcoming to perceive the teaching in its complete sense and expect the integration of all teaching skills and their application in class-room conditions.

A group of researchers may believe that all that falls under teaching ability may not be possible to analyse and present in the form of skills. In such a situation, those aspects which are not covered on skills should be provided to a student-teacher at a later stage so as to facilitate him to have the full knowledge of teaching.

The present model of integration does not satisfy either of the standpoints presented and lack in their completeness.

(8) The microteaching followed by integration process is basically a behaviouristic analytical approach. The analytical process will analyse the task in sub-tasks and their definite sequence keeping their inter-relations for the training purpose. The analysis however, does not presume that all sub-tasks will be of equal difficulty, quality and quantity. The present available integration models suggest using teaching skills at any combination and sequence without considering the nature of skills. The models are weak in providing definite ~~defi~~ sequence of skills during practice and relative importance in terms of the amount of exercises to be given.

(9) The models are hypothetical in nature demanding emperical validation of their feasibility for one year teacher training courses.

(10) Das et al. (1982) conducted a national level, NCERT proect by experimentally trying out additive, summative and diode models of integration, in collaboration with Indore University. Nine colleges from different parts of India participated in this experimentation programme. The results are not encouraging enough to implement these models and demand a total rethinking on micro-teaching and integration programmes of teacher-training.

3.6.5 Implications for Developing the Integration Model

The following are the summarised implications that have been evolved from the review and analysis of literature on microteaching and integration discussed in chapter two and in proceeding sections of this chapter.

1. Integration phase should have provision for exercising the skill at a broader level like application of skill components at various real class room conditions.
2. Practice exercises undertaken should shift from skill centred practice to teaching as, setting instructional objectives, selection and deciding over the method and media for instruction, and decision regarding skill sequences and selections in order to arrive at a tentative evaluation of learning outcomes.
3. Peer groups should be used only in the beginning phase of the integration stage. At this stage the peers as learner should participate as realistic and objective while responding, unlike in microteaching, wherein they act as skill practice promoters.

4. The teaching practice should be provided for different types of content, standards and objectives, selected deliberately as the variations during teach sessions.

5. The feedback should focus on identifying certain skill patterns formed by the student-teacher and evaluating them in terms of the context used for.

6. The feedback should also focus on the use of skills for classroom motivations, the mode of presentation for different type of contents, class room management, and pupil participation rather than on exhibition of skills, while teaching.

7. Student-teacher may require additional information about the skills they have practised during micro-teaching, which may be essential in the process of integration, for instance, the distribution of different type of questions in class room teach sessions, there relation to the instructional objectives, and questioning pattern are some additional requirements for the use of skill of questioning during integration. Such inputs have to be developed for appropriate use

8. Sufficient material has to be generated on the inter relation of skills and their pattern formation for class room teaching.

9. Methods of teaching and use of appropriate media and techniques during integration of skills are essential. This information has to suitably processed so as to provide a suitable role in skill integration.

10. Provision of exercises for the teaching patterns formed by the student teacher, to try out at different conditions of the class room viz. variation in terms of achievement, standard, physical facilities of the class room, type of content etc.

11. Providing enough competency to self evaluate his teaching by class room observation and student reaction than to depend upon supervisors and peers.

12. Providing inputs for familiarisation with the co-curricular activities, student-teacher relations and other responsibilities of school so as to provide reality of school condition wherein he has to teach in his later phase.
