CHAPTER - 3

A BRIEF SURVEY OF RELATED LITERATURE

3.0.0 Introduction:

The present chapter contains the related studies of microteaching. In any research a survey of related literature helps in conceptualizing the problem studied and in choosing the method to be adopted. Such a survey also reduces the chances of duplication and helps in building up a research tradition.

There are different styles of writing the chapter pertaining to related studies. Some investigators give related studies in chronological order, some follow the principle of homogeneity and give the similar studies in one cluster. Some other adopt both the components, i.e. they give the homogenous studies separately and at the same time follow the chronological sequence within the homogenous groups. The present review encompasses both the homogenous as well as the chronological approach.

The major concepts which have been discussed in this chapter relate to teaching, training, teacher-training, mini-teaching, simulation and different strategies of integration of teaching skills in microteaching besides the inservice teachers attitudes towards microteaching. Man is the only animal, says Moule, that does not have to begin a new in every generation, but can take advantage of knowledge which has accumulated through the centuries. This fact is of a particular importance in research which operates as a continuous endeavour for ever-closer approximation to the truth. The purpose of a chapter on related literature can hardly be better articulated than this. In such a chapter the investigator can show that the problem that he has
selected for study does not exist in a vacumm, and that his work essentially stands on the contributions made by his predecessors.

Efforts have been made in the present study to collect information from the original theses; where the theses were not available, resources had to be taken from educational journals. Some important journals taken as source are: British journal of Teacher Education, journal of Teacher Education, journal of Educational Psychology, Naya shikshak, Education Technology, Indian Education Review and journal of Education Research and Extension. The second survey of research in education compiled by prof. M. B. Buch, the third survey of research by N. C. E. R. T. and Educational Abstracts compiled by Indian council of Social Science Research have been proved to be much useful sources. The references of survey of research acquired from various publications to make enriched extracts have been gratefully mentioned in the bibliography and references.

The related relevant studies as collected, have been classified into five broad groups and then the chronological sequence has been followed with each group. In the first group, studies comparing microteaching based teaching with conventional teaching, studies of student teaching using other approaches like Interaction analysis and other studies where microteaching effectiveness has been included. The second group comprises microteaching component various studies with the components like; feedback and microteaching and studies on 'miniteaching'. Studies of teachers attitudes toward microteaching programme have also been incorporated.

3.1.0. Studies in India:

In India much work has not been done in the field of microteaching due to absence of availability of materials like closed circuit Television, video-tape-recorders and studios etc. Most of the work done on microteaching has been without hardware.
The various studies conducted in India pertaining to the areas of effectiveness, component variations, integration and attitude toward teaching have been given in section 3.1.1 to 3.6.0 to follow:

3.1.1. Microteaching Effectiveness:

In this section a humble attempt has been made to present a brief survey of researches conducted to determine the effectiveness of microteaching as a technique of teacher training. This includes the studies conducted in India since the inception of this technique. By and large, the criteria of assuring the effectiveness of microteaching approach has been in terms of general teaching competence or acquisition of competency in the use of particular or set of skills. It is clear from this caption that almost all the studies in this area showed superiority of microteaching technique over conventional teacher-training programmes. Even in the studies where such superiority was not observed directly, it was found that microteaching saved a lot of time and efforts in training to achieve its objectives. These studies have been conducted both on preservice as well as on inservice teachers, and the results in both the cases have been substantively favourable.

3.2.0 Microteaching vis-a-vis Conventional Teaching: (Studies based on preservice student-teachers).

As a technique of teacher training in India, Microteaching is in its infancy and many issues related to its most effective use have not yet been resolved. Even than most of the studies conducted in this area showed that it is an effective and feasible technique in the modification of teachers behaviour and broadly under the frame of its effectiveness in relation to conventional teaching approach. In India, the idea of microteaching started disseminating by early seventies:
D.D.Tewari (1967) initiated a project of microteaching in the Government Central Pedagogical Institute at Allahabad. He found that microteaching could be used profitably in training institutions and secondary schools. This would develop the student-teachers insight and make them, better qualified as teachers.

G.B.Shah (1970) tried an experiment with seven students of class IX. He used a tape recorder to record the performance of the teachers. His conclusions were that listening to recording afterwards helped the teachers to correct their mistakes.

Chaudasama (1971) tried out microteaching with six students at the Faculty of Education and Psychology, Baroda. His objectives were (i) To know the extent to which the microteaching could help a student teacher in developing more indirect teacher behaviour and (ii) to see if interaction analysis can be integrated into microteaching procedure. His findings were that the microteaching developed the skill of questioning in the teachers and increased pupils participation in the class.

N.S.Marker (1972) carried out a study to compare the performance of student teachers trained through microteaching with those trained through conventional approaches. Microlessons were given in normal Geography classes in five skills; namely: (1) set induction (2) Stimulus variation. (3) Questioning. (4) Response of pupil and reinforcement. (5) Closure. The lessons were recorded on the videotape and feedback was given on the following days. Her findings were that the microteaching was quite effective. In 1973 she conducted another experiment on this technique in simulated conditions. The results were again found to be encouraging.

L.P.Singh (1973) conducted a comparative study with the help of microteaching technique and Flander's Interaction Analysis of verbal teaching behaviours. He decided the sample of
student-teachers in three groups. One group received the treatment through microteaching, the other through flanders Interaction analysis technique and the third was controlled group which received treatment through the traditional method of training. His results showed:–

(i) Student teachers trained through microteaching and flander's Interaction Analysis changed their verbal behaviours in the classroom more significantly as compared to student-teachers trained in traditional way.

(ii) The student teachers trained through microteaching changed their verbal behaviours in the classroom significantly more than those trained through flander's Interaction Analysis technique.

S.P. Bhattacharya (1975) reports a pilot study on microteaching in civil engineering. The object of this pilot study was to explore the feasibility of the microteaching technique to develop teaching skills. The sample was of 14 teacher-trainees of Technical Teacher Training Institute Calcutta. It was found that microteaching and audio recording would develop the skill and attitudes of trainee teachers; but there was no relationship between microteaching skill and teaching experience as well subsequent practice in teaching.

Thus the results of above research studies are encouraging as regards to the applicability of microteaching in Indian Conditions. However, as these studies are sporadic and lack comprehensiveness to arrive at wider generalization, a large experimental field study was undertaken in 1975-76 by the Department of Education, N.C.E.R.T. in colaboration with the centre of Advance Study in Education, Baroda (CASE) and nine colleges/university Department of Education.
The general objectives of these studies were to compare the effectiveness of microteaching with traditional method in developing the general teaching competence and for meeting this objective, a group of similar experimental studies were undertaken simultaneously by Teacher Education Institutions from different parts of country. The main findings of the studies are that the student-teachers trained through microteaching or modified microteaching technique acquired higher teaching competence than those trained by using traditional teaching practice programmes. (Das. et.al 1976).

B.Passi (1976) found that microteaching technique is better than the traditional technique in improving the general teaching competence and also the skills of introducing the lesson, achieving closure, reinforcement, fluency in questioning and probing questioning. She also found that there is no significant difference in attitude towards teaching between experimental group and control group.

Sharma (1977) concluded that the microteaching approach was more effective than traditional teaching approach in developing general teaching competence among trained teachers. He used parallel group experimental design and took student teachers teaching Hindi as sample to prove it.

Nair (1979) conducted a study for determining the effect of teaching experience upon the development of general teaching competence among the student teachers trained through microteaching approach. He also studied the relative effectiveness of traditional training approach in developing G.T.C. among the pupil teachers with or without teaching experience. The main conclusion drawn from the study was that the teaching experience is not a factor affecting significantly in the attainment of G.T.C. of pupils trained either through traditional training approach or the microteaching approach.
Joshi & Biswas (1981) found that the experimental group exposed to the use of instructional material on the teaching skill of illustrating with examples synchronized with microteaching technique resulted in higher acquisition of this skill than the control group which was acquainted with the traditional student-teaching programme.

3.2.1. **Microteaching Effectiveness: Studies with Inservice Teachers:**

The most neglected side of teacher education programme is the inservice teachers. All the new patterns, teaching techniques, different instructional methods, tactics and even research on them are implemented and practised to the pre-service teachers rather inservice teachers. However, some studies based on inservice teachers have been mentioned as below:

Ray (1978) conducted experiment by using pre-test, posttest parallel group design. He took 30 secondary school teachers from Orissa and found that inservice school teachers in microteaching group for the acquisition of teaching skills exhibited significantly higher in achieving the gain scores of GTC than that of filler group under integrated skill based traditional approach. He also revealed that inservice teachers reacted favourably towards microteaching.

Jangira Singh and Mattoo (1980-81) in their two experiments with inservice teachers of social and pure sciences found that microteaching technique is better than the traditional technique of training in improving the general teaching competence and some selected teaching skills. They asserted that microteaching technique is likely to improve the competency of teachers to use the specific skills as well as the general teaching competence which is also reflected in the change of pupils perception of teaching after training in teaching skills. They also found that all but one teacher could retain the learning after 8 weeks of the post experimental recording.
Bhatia (1984) in his study for ascertaining the effect of microteaching through integration or without integration strategy found substantial effect of microteaching approach on the gain scores of GTC of inservice teachers of senior secondary schools of Delhi. The results showed encouraging in terms of integration strategy as well as without integration context.

3.2.2 Some Other Studies on Effectiveness of Microteaching:

Passi & Shah (1974) had undertaken an institutional project (CASE) and found that microteaching is effective in developing the skill of questioning, reinforcement, stimulus variation, nonverbal cues and illustrating with examples. They also found that attitudes of the teachers were favourable towards the feasibility of microteaching in teacher training programme in simulated and real conditions. The student teachers favoured the reteach session and the time taken for reteach session was comparatively less.

Doosajh (1974) conducted a number of studies relating to microteaching. In a primary try out a teacher of local area (Chandigarh) Higher secondary school gave a lesson to 5 students for about 15 minutes. His performance was televised in an adjoining room from where a group of 20 observers judged his performance on a specially designed proforma. The performance of teacher was played back to him in presence of a teacher educator, who focussed his attention on points which needed improvement. The teacher modified the lesson plan in about 15 minutes and gave the replanned lesson to another group of 5 students. The same observer evaluated this second lesson on a second copy of same proforma. The teacher showed allround development in all areas.

Doosajh (1975) again tried to study the change of teaching self-concept through microteaching at T.T.T.I. Chandigarh. He took 10 teacher-trainees of electrical group of this Institute. They were asked to evaluate their
teaching performance before and after on at least two microlessons with closed circuit television. Their evaluations have been compared with their supervisors evaluations. In all cases, there was a much significant change in teaching self-concept, bringing it closed to that of the average of supervisors.

Lalitha (1977) found that microteaching is an effective technique in developing the skill of writing Instructional objectives, Explaining; increasing pupils participation and using black-board.

Kirkire (1979) conducted an exploratory depth study into the effectiveness of a microlesson upon the skillfulness, impressiveness of the presentation and upon pupil understanding. The following main conclusions were drawn from the study:

(i) Practice of Microteaching in the skill of Explaining increases the skillfulness of the teacher. His presentation becomes clear, logical and fluent.

(ii) Practice in a microlesson in the skill of Explaining makes the impression more lasting with regards to time.

(iii) Practice in microlesson in the skill of explaining interferes with the pupils learning on understanding and produces an adverse effect.

Bhaskara (1979) investigated into transfer of practice of five microteaching skills into class room situation, besides an attempt was made to investigate into transfer of five microteaching skills into social conversation situation. The researcher defined the conversational skill as the ability to communicate freely the ideas in a cordial atmosphere which is mutual and is on an equal footing with reference to the persons involved.
The study concluded that the practice of five microteaching skills is transferable to real class-room situation and this practical improves significantly the conversational skill of student-teachers.

3.3.0 Component-variation studies:

The component variations study is a very important aspect of microteaching. Much research on microteaching has been concerned with the value of component parts of the process and with the relative effectiveness of different variants of these components (Morrison-1974). The components (or elements) of microteaching technique are modelling (the mode of introducing the skill to student), the feedback (information supplied to the student about his/her performance, setting variation and modified studies. These aspects have sometimes been studied in conjunction with each other sometimes separately. The related studies to these aspects can not possible to be mention comprehensively in the present study, however, the effect of microteaching in the light of feedback and modelling with attitudinal effect and standard and modified models of microteaching have been reviewed and presented.

3.3.1 Feedback variation studies: (Related to student teachers):

The term feedback, also called 'knowledge of results' is used to describe a kind of reciprocal interaction between two or more events in which an activity generates a secondary action which in turn redirects the primary action. Theorists explain functioning of feedback in one or two ways. Some theorists compare feedback a reward and explain its function in terms of the 'reinforcement' theory, while other do not consider it a reinforcer instead it provides correctional information. (Sarber Anderson-1977).
To sum up, the feedback functions in two ways; if it is provided immediately after the exhibition of response it acts as reinforcement, but when feedback is delayed then it acts as correctional information. Immediate feedback facilitates the learning speed, while delayed one makes the organism resistant to extinction. Both types are essential but immediate feedback is more effective. Feedback is usually identified as 'intrinsic' and 'extrinsic'. In the first form, the learner gets information through his own actions while in the latter form the instructor tells the learner about the effectiveness of his actions. It has been observed that as we advance from fixation to autonomous stages of skill acquisition, we depend less on extrinsic and more on intrinsic feedback. Thus skill learning becomes self-evaluative in due course (Margret Robb-1966).

Pangotra (1973) has compared the effectiveness of the different sources of feedback on the class room behaviour of student teachers during their student teaching programme. The different sources of feedback were (i) the student teacher himself (ii) the college supervisor, and (iii) external observer. The sample consisted of 48 unmarried women student teachers who were freshers. The class room behaviour was observed by Flanders Interaction Analysis catagory system (FIACS). It was found that the teachers who received the self directed feedback proved better teachers than those who received feedback through other sources. Feedback from college supervisors and external observers were also found to be effective when compared with the controlled group which received no feedback.

Doosajh (1974) compared different types of feedback for modifying teachers behaviours through microteaching. He took 12 students of the electrical group, IIIrd semister of Technical Teacher training Institute chandigarh. They were divided into three more or less equal experimental groups. The following three types of feedback were provided to these groups after the microteaching sessions:-
Group A: - Through video tape and discussion of evaluation with supervisor.

Group B: - Through videotape and discussion of evaluation with supervisor and fellow trainees.

Group C: - Through videotape and discussion, of evaluation with supervisor and self-evaluation.

Group 'C' showed the maximum improvement in teaching behaviour & proved that self evaluation is powerful motivation for changes.

Sharma (77) conducted the study with 32 B. Ed, female students of DAV college of education, Abihar (Punjab) during 1974-75. They were divided into four groups; three experimental and one control; all being matched on various aspects. The major conclusions were as under:

(i) Discussion was the most effective technique for providing feedback by the peer-supervisors for attaining the skill of body movement. Similarly written feedback was effective in case of shifting sensory channels.

(ii) With regards to effectiveness, the hierarchy among three techniques of feedback was discussion, written and oral.

(iii) Only in the case of skill of shifting sensory channels, discussion was the least effective.

(iv) There was no differential effect of the three techniques of feedback upon the attainment of skill of Gestures.
(v) The peer-rating on the skill of body movement and gestures always remained at a lower level than the self-rating.

Das & Passi (1977) found that General teaching competence scores (GTCS) of student teachers did not differ significantly when trained through microteaching with varying sources of feedback. In other words, the feedback given by peers or self feedback by audio-tape had similar effects on the development of teaching competence.

Rao (1979) found the effect of administering different sources of feedback. His results were as under:

(i) There is no significant difference in the teaching outcomes of two treatments of the S.M.T. (microteaching under simulated condition and MMT (microteaching under real condition) on the general teaching competence performance.

(ii) There is no significant difference in the retention of general teaching competence of the two treatments of SMT & MMT.

(iii) Treatments were equally effective in inculcating attitudes towards teaching in the student teachers.

(iv) There is no significant difference in the level of retention of general teaching competence of two treatments under SMT & MMT.

Rao (1979) took up an another study in which a sample of 20 preservice B.Ed student teachers were taken. These were selected from faculty of education, Banaras Hindu university in session 1977-78. Only student teachers having English as their medium of instruction and taking up science and English as teaching subjects were selected. These were grouped into two
equivalent groups—experiment and control, and were matched in terms of sex and academic qualifications. The control group was provided feedback by peers and experimental group received feedback from college supervisor. Training was given in five skills namely; probing questioning, Stimulus Variation, Reinforcement, Explaining and illustrating with examples. The main conclusions from the study were drawn:—

(i) Peer feedback and the feedback by college supervisor are equally effective in developing general teaching competence in secondary student teachers.

(ii) There is no significant difference in the relative effectiveness of peer feedback and college supervisor feedback in the retention of general teaching competence.

(iii) Participants' attitudes towards teaching is not affected significantly as a result of variation in feedback i.e. from peers to college supervisors.

Bhouraskar (1979) studied the effectiveness of peer plus supervisory feedback and that of peer plus audio tape feedback in developing the general teaching competence of 20 student teachers selected from the Deptt. of Education, University of Indore. The following were the main findings;

(i) There is no significant difference between the relative effectiveness of peer and supervisory feedback and that of peers and audio tape feedback in developing general teaching competence of student teachers.

(ii) There is no significant difference between the relative effectiveness of peer and supervisor feedback and that of peers and audio tape feedback on the level of retention of general teaching competency.
There is no significant difference in the level anxiety of student teachers receiving feedback from peers plus supervisor and those from peers and audio-tape.

Asija and Kumari (1979); determined the effectiveness of peer feedback and that of college supervisor feedback in developing general teaching competency in preservice secondary school teachers. They also studied the relative effectiveness of the two sources of feedback on the retention of general teaching competence and development of attitudes towards teaching in preservice secondary school teachers. The main conclusions drawn were:

(i) Supervisor feedback is significantly more effective than the peer feedback.

(ii) Supervisor feedback and peer feedback are equally effective in the retention of general teaching competence.

(iii) There is no significant difference in the effectiveness of both sources of feedback ie. Peers and college supervisors.

Paikary (1981) found that:

(i) The means of four experimental groups that were provided feedback from supervisor, supervisor and peer, peer and audio-tape and supervisor differed significantly at 0.01 level from the means of control group. But there was no significant difference between means of control group and other two experimental groups that were provided feedback by peer and audio tape. It showed that feedback by peer and audio tape was much more effective that the feedback by peer or audio tape only.
(ii) The first hypothesis, there is no significant that difference between the teaching competence scores of the different groups of student teachers due to effect of different types of feedback given in their training (though microteaching) could not be accepted totally as true. The means of experimental group I which was trained through audio tape feedback were greater than the other group with peer feedback.

(iii) From the analysis of teaching competency scores as well as attitudes scores, it was found that greater teaching competency and more favourable attitude towards teaching in most of the cases was associated with supervisors presence in the group.

Vimla Mahesh (81) also found almost the same results from her study regarding effects of peer or college supervisor feedback on the general teaching competency of student teachers.

3.3.2 Feedback component and In-service teachers:

Ray (1978) conducted experiment by using pretest, posttest parallel group design. He took 30 secondary school Inservice teachers from two Districts of Orissa and four feedback treatments were studied. The major findings of the study were:

(a). The performances of the teachers trained through microteaching for skill acquisition either under supervisory feedback or supervisor cum-audio tape feedback were significantly higher on the gain scores of general teaching competence than that of filler group.

(b). The performances of teacher trained through microteaching on skill acquisition under self analysis through audio-tape were equally effective to that of the teachers in the other group and;
The teachers trained through the technique under various sources of feedback did not differ significantly from the other group on the gain scores of attitudes.

3.3.3. Modelling Variations: Studies pertaining to student-teachers.

Vaze (1976) conducted his study in three phases and found that:

(i) Microteaching appears to be the best treatment for acquiring the skills in asking probing questions. When tried at the beginning of the academic year, the symbolic modelling treatment did not differ significantly from audio modelling treatment.

(ii) Symbolic modelling proved to be the best treatment for acquiring the skill in asking probing questions followed by audio-modelling and microteaching comming out to be the least effective treatment when tried with predominantly language-oriented group.

(iii) Microteaching appears to be the best treatment for acquiring the skill in asking convergent questions followed by audio-modelling, comming out to be the least effective treatment when tried with predominantly language-oriented group.

Dass and Passi (1977) found that planned variations modelling do not produce significant changes in either retention level or the commulative effect of general teaching. Patel (1978); confined his study to 20 student teachers (1977-78). Perceptual model (live-model) and symbolic model (Printed materials) were the treatment variables. The following results were found:-
(a) The microteaching treatment given with the perceptual modelling and that with symbolic modelling have not shown any significant difference in the outcomes of general teaching competence of student teachers.

(b) As the retention level also, the results are practically identical.

(c) The microteaching treatment given with preceptual modelling and with symbolic modelling produced practically identical outcomes in respect of attitudes towards teaching.

Dass Passi Jangira & Singh (1979) conducted a field experiment in microteaching and their findings were as follow:-

(i) There are no conclusive results with regards to the comparative effectiveness of perceptual and symbolic modelling in developing general teaching competence in secondary student-teachers.

(ii) Variations in modelling conditions does not significantly affect the attitudes towards teaching, retention and level of anxiety of secondary student-teachers.

Patted (1977) attempted to determine the relative effectiveness of perceptual modelling and symbolic modelling in developing the general teaching competence in secondary teachers. He tried out on 20 B.Ed. student teachers out of 100 selected randomly as sample. His results were that the perceptual modelling and symbolic modelling are equally effective in developing the general teaching competency of teacher trainees.

Hooda (1979) Conducted his experiment on 20 students teachers selected randomly out of 300 enrolled student teachers of B.Ed in (1977-78). The conclusions of the study are:-
(i) The perceptual modelling is significantly more effective than symbolic modelling in acquisition of general teaching competency.

(ii) Perceptual modelling is significantly more effective than symbolic modelling in the retention of general teaching competence.

(iii) The level of anxiety of student teachers exposed to perceptual modelling is significantly lower than that of student teachers exposed to symbolic modelling.

3.4.0 Modelling Component: Study pertaining to inservice Teachers:

Paintal (1979) conducted six experiments of inservice and preservice teachers of Delhi and Haryana without any hardware and compared, the results with inservice teachers in Lancaster, U.K. to see if this course on effective questioning is equally effective in India without the use of costly hardware. Here four groups were given the written instructional material on the questioning skill to be read at home and remaining two groups were given the lecture demonstration on the skill without any written materials.

The findings were as below:-

(i) All the groups showed improvement in questioning skill, excepting the component of refocussing and 'asking questions' that call for a set of related facts.

(ii) Average of six groups (73%) of the subjects had a favourable attitudes towards microteaching, 26% neutral attitude and only 1% (out of 164) had a negative attitude.
Over 90% of the participants in 6 groups had rated the skills 'asking higher order questions', prompting and seeking further clarification as the most important to retain.

The groups reported a change in pupils behaviour due to microteaching.

Mukhopadhyaya (1981) conducted a study on 24 full time teacher trainees who had either a diploma in engineering or BSC/MSC degree. All the trainees had considerable teaching experience. Using random sampling technique, two groups were formed. A post-facto analysis carried out revealed the matching of groups in terms of their qualifications, age, experience & self-perceived teaching capability.

The competencies selected for experimentation were; asking questions in class room and employing reinforcement teaching as teachers were found to be most weak in these two competencies. The self-learning modules on each questioning and reinforcement developed as a part of the competency-based teacher education (C BTE) were used as training materials for one group- 'A' The other group 'B' was trained through microteaching. The main findings are:

1. In questioning, 10 from each group satisfied the criterion of referential test, whereas on reinforcement, 9 from microteaching group and 7 from modular application group satisfied the criterion reference test on reinforcement.

2. The mean scores on 'naturaliness' for the microteaching group was 7.0 whereas that for the modular application group, it was 5.6.

3. Both the treatments were found to be equally effective.
Mukhopadhyaya, Kathuria & Dalane (1982) took up a sample of 20 inservice teachers and divided them into 2 groups. All the teachers were given training on four selected instructional skills. These were (i) Increasing pupils participation (ii) Stimulus variation with emphasis on pausing and focussing; (iii) fluency of questions and, (iv) Reinforcement.

One group was trained through microteaching, another was given to learn from a pre-designed self-learning package followed by efforts of integration of teaching skills; although the results are not significant in the case of latter.

3.4.1 Setting Variations Studies: Simulated & Real Class Room Conditions.

Passi; et. al. (1973) explored that microteaching under simulated conditions and that under real class room conditions do not produce different effects on the development of general teaching competence and on its retention gains by the two groups.

Rai (1977) in his study compared the effectiveness of microteaching under simulated and real class-room situations and found it effective in both the situations. He thus concluded that microteaching could be adopted as regular and integral part of teacher education programmes and microteaching being controlled practice of teaching, can be a very good tool for providing training to teachers in component teaching skills.

Gupta (77) established that there is no significant difference between the mean scores of simulated microteaching and microteaching under real class room conditions. He further concluded that there is no significant difference in retention of G.T.C by the two groups, and also in their attitudes.
Patel (1978) confined his study to 20 student teachers. The results are as unders:-

(i) The microteaching treatment given to simulated conditions and that of given in real class room conditions have not shown any significant difference in the outcomes in respect of general teaching competence of student teachers.

(ii) The microteaching treatment given to both the groups has shown significant difference in the outcomes of shaping general teaching competency.

(iii) Both the groups could retain the learning of general teaching competence and special skills equally well.

Sadasivam (1979); found that there is no significant difference in the attitude and anxiety of student teachers towards teaching competence who were trained through microteaching approach either through simulated or real classroom conditions.

Bhalwankar & Mahajan (1979) found that:-

(i) There is no significant difference in the effects of microteaching technique under simulated conditions and that in real classroom conditions in the development of general teaching competence in Secondary student teachers.

(ii) There is no significant difference in the level of anxiety of student teachers trained through microteaching either under simulated conditions or under real class room conditions.
There is no significant difference in the attitudes towards teaching of student-teacher trained through microteaching approach either under simulated or real classroom situation.

Joshi (1979) corroborated the findings of the above three studies.

3.4.2 Standard and Modified studies:

The reteach session of microteaching with the same lesson is practised in standard form and reteach session with a different lesson is practised in the modified form of microteaching. A few studies have been conducted to see the effectivenses of these two elements.

Dass; Passi; & Singh (1976) found that the general teaching competence (GTC) scores of student-teachers taught through modified microteaching (MMT) were higher than student taught under traditional technique (TT) of teacher training. It was also seen that the GTC scores of student teachers taught through simulated microteaching technique (SMT) were higher than the student-teachers taught using traditional approach.

The third finding of this study was that there is no significant difference between the general competence of simulated microteaching and modified microteaching groups; though the mean scores of modified microteaching group were higher than that of microteaching under simulated condition group.

Lima; (1979) and Kamat; (1979) had the similar findings in the following two areas:

(i) There is no significant difference in the general teaching competence in general scores of student teachers trained through microteaching with the same or the different teaching unit in 'reteach'session.
(ii) There is no significant difference between the attitudes of student teachers trained through microteaching with the same or different teaching units in the 're-teach'session towards teaching.

3.4.3 Studies Pertaining to Integration of skills:

In a microteaching approach student teachers are provided simplified and controlled situation where they undertake practice for acquiring teaching skills one by one. After they have acquired the teaching skills, they are sent to schools for teaching practice in real classroom setting. Integration thus be defined as the process through which a teacher acquires the ability to select and organize the teaching skills in the desired sequence to form effective pattern for realizing the specific instructional objectives. Some recent research studies have been given in this caption.

Dass, Passi, Jangira and Singh (1979-82) conducted a study to see whether the integration skills can produce better results as compared to training through microteaching without integration. The objectives of the study were:

(a) To determine the effectiveness of no integration strategy and 'summative model' of integration of teaching skills in developing the general teaching competency.

(b) To study the relative efficacy of no integrated strategy and 'Additive model' of integration in developing general teaching competence.

(c) To determine the comparative effectiveness of no integrated strategy and Diode model of integration of teaching skills in developing the general teaching competence.
To study the relative effectiveness of 'no integrated strategy and 'summative model of integration' of the selected teaching skills.

To determine the relative efficacy of no integration strategy and Additive model of integration of teaching skills on the integration of selected teaching skills and finally with the Diode model. The following results have been shown:

(i) The summative integration strategy tends to improve teaching competency as well as the quality of integration of teaching skills.

(ii) The additive strategy of integration of teaching skills has been found effective but it tends to improve more the quality of integration of teaching skills.

(iii) The Diode strategy of integration tends to improve the general teaching competence of student teachers as well as quality of integration of teaching skills, although the results are not significant in the case of latter.

The study was conducted with 264 student teachers and M.A. (Education) students from 13 Colleges of Education. The GTC scale and Indore Teaching Assessment Scales were used to measure G.T.C and competence to integrate the learnt skills. An evaluation of teaching skills was used and effectiveness of integration strategy was studied between a group of student-teachers proceeding to block teaching immediately after practising the teaching skills using microteaching (no integration strategy-group or vicarious integration group) and group with the integration strategies on summative model, Diode model or Additive model.
Mathew (1980) tried out on a sample of 20 student-teachers which he selected from a group of 60 student teachers at B.Ed college, shillong. Two matching groups of 10 students each were made on intelligence, age, sex, teaching experience and qualification. In each group, five of them were male. He found that teaching of self concepts of student teachers can be enhanced significantly through microteaching practice in simulation and there is no significant improvement in the self concept of student-teachers who were subjected to summative strategy of integration of skills.

Mukhopadhyaya; et. al. (1981) concluded through their study that:-

(a) Summative integration strategy tended to improve teaching skills.

(b) The additive strategy of integration of teaching skills did not improve G.T C of the student-teachers but tended to improve the quality of integration of teaching skills; and,

(c) That diode model tended to improve the skills as well as the quality of intervention of teaching skills but the latter was not significant.

Singh, Geeta (1984) conducted a comparative study of different strategies of integration of teaching skills. The major aims of study were:-

(i) To compare the effects of integration training through summative pattern with those of traditional practice teaching programme on three criterion variables: (a) attitudes towards teaching; (b) Integration of teaching skills; (c) general teaching competency.
(ii) To find out whether different sources of feedback provided varied effects on the above variables.

The sample consisted of forty eight B.Ed. Trainees selected out of a total 200 from the faculty of education, Banaras Hindu University during session 1978-79. These trainees were divided into four groups of 12 each. The selection was made on the basis of pre-service training, age, subject, academic qualification and sex. The four groups were (i) control group (ii) The supervisory feedback group (iii) peer feedback group and; (iv) Audio feedback group. The data were collected with the help of three tools:-

(i) The G.T.C. scale (developed by Passi & Lalitha - 1976)

(ii) The teaching assessment scale (developed by Deptt. of Education, Indore University and association with National project on Microteaching 1979).

(iii) A.T.A.I (Ahluwalia Teachers Attitude Inventory - 1970).

The study followed the four parallel group designs providing all the groups with similar training in teaching skills in simulated microteaching situation and measuring differences attributed to integration of teaching skills. The 't' test was applied to find the significance of difference between the means of pretest and posttest scores of the four groups. The five skills were selected viz; the skill of (i) probing questioning (ii) reinforcement (iii) stimulus variation (iv) explaining and; (v) illustrating with examples. The study demonstrated:

(1) Significant positive impact of integration training through summative model on general teaching competancy (stating that integration training is helpful to the student-teachers in achieving better teaching competencies and better effectiveness).
Positive influence on teachers performance of immediate feedback (from peers or supervisors or through replaying of the tape) given more objectively and definitely in terms of components of integrated skills.

Effectiveness of microteaching both in the controlled laboratory environment as well as the reality of bonafide teaching.

Integration training has no differential impact on integration of teaching skills of student-teachers of the control group and 3 experimental groups and also has no differential impact on the integration of teaching skills in the scores of auto-feedback group, peer feedback group and supervisory feedback group.

Bhatia (1984) found the effectiveness of training of integrated skill on the general teaching competence and specific skills of 40 inservice teachers. He found that microteaching with and without integration training improves the general teaching competence and certain specific skills. He also found that integrated training is better than the microteaching without integration in improving the teachers attitudes towards teaching and in sustaining the general teaching competence and specific skill improvement gains. His major findings were:

(i) The treatment of skill integration intervention employing additive strategy administered to experimental group and the treatment of microteaching without skill integration administered to control group significantly improve the G.T.C of inservice commerce teachers soon after the training and at retention level i.e. after two months.

(ii) The study of intergroup comparison showed that there is a slight improvement on teaching attitudes in the experimental group undergoing skill integration
intervention treatment over control group without integration.

(iii) microteaching treatment of skill integration with additive strategy improves the gains in respect of appropriate use of skill of Reinforcement and also at the retention level.

(iv) Microteaching treatment of skill integration and without integration improve the appropriate and competent use of skill of probing questioning and skill of illustrating with examples.

(v) Additive integration strategy significantly improves the ability in respect of appropriate and competent use of skill of stimulus Variation and improves the retention of gains significantly in respect of all the four skills.

Bawa (1986) with his eminent efforts started with his sample of 40 student-teachers. The study was conducted with the pupils of class VI to VIII and all the student teachers participated in the study were females, selected from central institute of education university of Delhi. The main objectives of the study were:

(a) To assess whether training through microteaching brings about substantial changes in teaching competence of the participant student teachers.

(b) To assess gains in integration based on 'summative strategy' of teaching skills for participants in integration-based instruction after microteaching;

(c) To assess gains in integration of teaching skills for student-teachers who teach on their own without exposure to integration-based instructions;
To study comparative changes in attitudes towards teaching amongst student-teachers exposed to integration-oriented instruction and without integration-based instructions.

The relevant findings of the study were:-

(i) Participation in microteaching-based training programme improves the teaching competency for all the participants.

(ii) Exposure to integration-based instruction subsequent to microteaching based training programme affects one's ability to integrate various teaching skills.

(iii) Participation in integration-based instructional programme or teaching on one's own after microteaching training has the same affect on one's ability to integrate various skills of teaching effectively;

(iv) The results proved that attitudes towards teaching is very much modified through short-term teacher training programmes. It is quite likely that a change in duration of the training could have brought about still greater changes in attitudes.

3.4.4. Studies Abroad : Current Trends In Microteaching Research:

Reviewing the research related to microteaching during 70's, copeland (1982) categorizes research on microteaching into terms of two hypotheses; (a) skill training in microteaching which cause trainees initially to acquire the target technical skill rapidly and with a high degree of efficiency; (b) microteaching will ensure that target skills thus acquired, will be used in classroom subsequent to training. Research studies based on first assumption by and large have concluded that
microteaching increases initial acquisition of target skills (Borg-1972, Kissock-1971, Parrot-1976, Shea-1974). However, the research evidence in support of the second assumption that microteaching increases the range of technical skills actually employed by the trainees in the class room subsequent to training is conflicting, while Borg; et.al. (1969), Raymond (1973) reported that trainees demonstrated a significant increase in the use of target skills, other investigators have not obtained similar results (copeland-1975 Copeland and Doyle-1973, Katz-1976, Paterson-1977, Hargie and Maidment-1982).

The situation abroad is not very much different from what exist in India. Popham & Baker (1968) found that the trained and untrained teachers did not differ significantly regarding bringing about the learning in pupils. This was due to the fact that then existing teacher training programmes were mostly concerned with the approach of 'instructions followed' rather results of instructions. Reviewing the research studies in student teaching, Davis (1969) has pointed out:

"Although the practical component in teacher education is considered of key importance; it is attracting an increased amount of criticism in its present form. It has been considered largely ceremonial in its functions, its behavioural objectives, it is alleged, are seldom identified and evaluation is suspected." However, the effectiveness of microteaching approach abroad can be sufficiently summed up as:

3.5.0 Microteaching: Effectiveness Studies:

The first evaluation of microteaching was carried out at stanford university in 1963 (Allen & Clark-1967). The student teachers were divided into two groups of approximately thirty each. One group received all the practical teaching experiences in microteaching setting; the other group's programme was of inservice observation and teaching experiences. The result was clear and 'encouraging'. Studnts trained in microteachng clinic
made improvements in the skills practised and were judged to display greater teaching competence than their colleagues. These differences were observed by both pupils and supervisors. Students practised the use of microteaching.

Kallenback & Gall (1969) undertook a comparative study to determine the effectiveness of microteaching. Nineteen elementary school children trained through microteaching and were compared with other 18 children of same age who were trained through traditional approach. The findings of the study were:-

(1) The two groups did not differ significantly on any of the post-training measure of teacher effectiveness.

(2) Microteaching was not found to be superior than conventional training methods in its effects of teacher's classroom performance.

(3) Microteaching was the superior training strategy since it achieved similar results in only one fifth of time required for the traditional training programme.

Bell (1970), Experimented microteaching technique in Home Economics at Texas technical university in 1967-68. His main purpose was to determine the effects of training upon teaching skills of student teachers. He took a sample of 22 Economics senior students, the skills such as, (a) questioning (b) establishing set (c) reinforcement (d) achieving closure (e) framing a reference, were selected and resulted in:

(i) Programme was relatively more effective in the teachers preparation than the usual form of training provided.

(ii) There was a possibility of relationship between positive interaction of group participating in microteaching and a positive attitude towards microteaching.
Ward (1970) conducted a survey of microteaching courses being used in secondary education programme in United States. The general opinion was that where microteaching had been used, the teaching competence of both students and staff and their attitudes towards education had improved.

Schuck (1971) had also reviewed the pre-service microteaching programme in a number of American Institutions. Some programmes reported that the students receiving microteaching showed a significant improvement in teaching competence when they are compared with conventional trained teachers.

Davies & Smoot (1970) involved eighty-five secondary teacher trainees in series of microteaching experience and fifty-five in traditional training methods in an attempt to study the comparative effect of microteaching and traditional methods on student teachers' verbal teaching behaviours. The results indicated that the group differed significantly as microteaching group asked more divergent and probing questions than the other group.

There are a number of studies which indicate the general effectiveness and wider applicability of microteaching without comparing it with conventional training method. In this regards, investigations of Reed; et.al (1970) and Thew (1970) revealed that the combination of microteaching experience plus lectures on general teaching skills related to teaching (directive lectures) resulted in improving skills and attitudes towards teaching.

3.5.1 Feedback variations with preservice and Inservice teachers:

The function of providing feedback to trainee is usually performed by supervisor. This is done by replaying the
recorded lesson on the video-tape which is observed, both by student teacher or supervisor or by providing verbal description.

In any training programme, supervisor is a scarce resource. In order to make optimum use of this resource, attempts have been made to provide persons who may assist him or act as his substitute. Such persons are pupils, peers serving teachers or any other person competent to evaluate performance on given criteria. Among self evaluation techniques are audiotapes in place of video tapes.

Flanders (1967) and American National Council of Acceleration of teachers effectiveness (1968) have observed that, "Inadequate feedback has plagued teacher training for centuries", the same comments stressing the feedback component in microteaching have been made by Peterson (1968).

Tuckman and Oliver (1968) compared four feedback conditions; (a) Pupil's feedback alone; (b) supervisor feedback alone; (c) both pupil and supervisory feedback and, (d) no feedback. All these types of feedback were given through the student's opinion questions (SOQ). Results indicated that both the treatments involving pupil's feedback produced significantly greater change than the other two conditions. Moreover, comparison of pupil's feedback and pupils supervisor's feedback indicated a failure for supervisors feedback to produce any additional effect other than that accounted for by pupil's feedback alone. Compared to non-feedback condition, results also showed that supervisors feedback produced greater negative shift in teachers behaviour.

The studies conducted by Orme (1967) clause (1968), McIntyre (1971), Johnson and Knapp (1971) and McDonald & Allen (1968) indicated more or less the following results: (a) Trainees benefit from some kind of feedback alone; (b) verbal and video feedback is more effective than verbal feedback.
(c) Supervisor enforce with video feedback is the most effective in changing verbal behaviours. (d) Feedback system in which reinforcement is accompanied by cues discrimination is very effective technique for improving some teaching behaviour. (e) providing feedback immediately after the performance is not crucial factor in microteaching.

Perrot; et.al (1972) conducted a study to find out effectiveness of self evaluation. All groups consisting of undergraduates in their final year were provided with objective self valuation instruments. Results showed no evidence of differences in performance between students who had worked in groups with tutors and those who had worked in groups without. However, it was found that the majority of the trainees expressed a strong preference for supervisory assistance.

It can be concluded that there are number of ways of providing feedback in microteaching process. The choice of manner of providing feedback in each microteaching setting depends on:-

(i) The way in which other factors in the microteaching programmes are organized, e.g. the relationship between modelling end supervisory feedback.

(ii) The way in which various elements of supervisory variables are combined, for example whether the trainees are working in groups with or without supervisors.

Griffith (1973) has referred the outlines of two studies reported in 'Technical Report No-3' of stanford school of Education. In this study no significant difference was found between the group that received perceptual model training and the group that received supervisors feedback.

In second study four groups were given four different treatments viz, (i) Group (a) viewed replays of their own
performance (ii) Group (b) received self feedback (iii) Group (c) received reinforcement only and instructions as in group (b) and; (iv) Group (d) received reinforcement plus discrimination training. Group (d) showed greater gains than any of the other group. However, there was no significant difference between group (c) and the other groups excluding group (d).

Ward (1970) compared the effectiveness of four kinds of feedback in the acquisition of questioning skills. Four groups of inservice elementary school teachers evaluated their performance by, (i) self videotapes, (ii) self audiotapes, (iii) a combination of self videotapes and model videotapes and, (iv) reflective evaluation without equipment. It was resulted that necessary to listen intently without visual concentration provides stimulation sufficient to affect the questioning-skill ability of teachers.

Morse, Kysilka and Davis (1972) have reported a study of the effects of different kinds of feedback on the training of 39 secondary school teachers in refocussing behaviours. Four experimental treatments; (a) no feedback from audiotape or supervisor, (b) feedback from audiotape only; (c) feedback from audiotape and listening to a guide and; (d) feedback from audiotape, guide and supervisory conference were compared. There was no significant difference between the groups for crieteria (a), (b) and (d). The four sets of crieteria were:- (a) student self evaluation on rating scale (b) peer-pupil rating (c) observer count of refocussing behaviours and; (d) observer's rating on the scales used by students in experimental group (a) were employed.

3.5.2. Modelling-Variation studies:

In its real identifiable form, modelling originated in the theories of imitative behaviour of Bandura & Walters (1963) and applied in microteaching involves two steps; the learner first observes a model (e.g. an expert teacher) demonstrating a
skill and then tries to shape his own behaviour after observing the model. Effective modelling involves considerations about: (a) observation and imitation of specific behaviours. (b) choice of component model (c) opportunities to provide with feedback facilities (Mc. Lease, Unwin-1971).

Bandura, Ross and Ross (1963) showed the filmed model effectively as live models, while young (1968) clause (1969) Mc.Donald and Allen (1967) have produced evidences of effectiveness of various types and combination of models on lecturing skill. Allen. et.al. (1967) found no significant difference between perceptual and symbolic models in developing probing questioning skills. These investigators further used negative, mixed positive and negative and positive models and found that skill acquisition was more effective when only positive models were employed.

Borge, Kelling, Langer and Gall (1972) observed that a film or a hand book model will best serve the objectives of building an easily disseminated, reasonably priced product. The most economic model would be a handbook containing the presentation of teaching skills as series of verbal interaction. This type of presentation has been called symbolic modelling as the responses to be acquired are described in symbolic i.e. words. Symbolic modelling means telling the trainees by way of verbal or written interactions, behaviours which desired of him. Video or films are known as perceptual modelling.

Berlinger (1969) reports that close students matching of the perceptual model with his own microlesson seemed to lead to easier questioning of the skill, at least, with regards to higher order questioning. Though this way not always be feasible in microteaching lesson, the implications are that the practice episode should at least be with a similar pupil age level and with similar subject matter.
Koran (1971) found that in developing questioning skill of observation and classification, the symbolic model of training was particularly effective with students who were weak in this area. He showed model twice and found that there was a small increase in the skill following the second presentation.

Jesson (1974) and Olivera (1975) stated that, "student teachers can and do make modifications in their behaviours by shaping other teachers, be they good models or poor model. By observing what someone else is doing poorly and by criticizing the performance with colleagues; student teachers have made enough significant modifications in their own performance to warrant further research."

3.5.3. Variations of Setting:

Wood and Hedly (1968) reported that questioning the peer group began to show diminishing return due to the background knowledge of the student, and to their development of a sense of anticipation. Later six 'Grade 8' girls were used instead of peers and this class produced a 'greater degree of realism and helped in maintaining the students interest'.

Peck and Tucker (1971) reported a study by Sterbach and Butts (1968) in which peers and pupils were used in teaching practice session. The result were that there were significant differences between students who taught children and those who taught peers; suggesting that at elementary level at least, some skills can only be learnt by teaching children.

Levis; et.al. (1973) in a study found out that students who taught microlesson to high school pupils performed at a significantly higher level than students who taught peers in the use of higher order questions influence and the use of probing questions there were no significant differences between the two groups.
3.5.4. **Standard and modified studies:**

Allen, fortune and cooper (1968) suggested that one teach-reteach cycle may not be enough to obtain a significant behavioural change, whereas, Levis. et.al. have studied and reported that there was no significant difference in the reteach between students, who had a 'refinement break' of twenty minutes and that those who had a period of one week in which to revise their lesson.

Hargie and Maidmant (1979) reported that the use of a reteach of each teaching establishment skill has been dropped by most establishments in U.K. Hargie, O.D. (1982) revealed that many institutions have restructured their microteaching programmes in such a way that the stanford Model of short 5 minutes teach and reteach cycles have been replaced by alternative systems.

3.5.5. **Studies Pertaining to Effectiveness of Mini Courses:**

As already explained in caption 2.3.4. of this chapter that these courses developed by Far West Laboratory include instructional and model films, teachers hand books, self-rating forms and detailed instructions to teachers on how to improve their skills with out supervision.

Borg; et.al.(1970) obtained data from field studies on Mini-Course-3 effective questioning in a classroom discussion-secondary level. These Mini-Courses seem to have a long time effect on teachers performances in pre-course and post-course tests.

Acheson & Zigler (1971) compared the effectiveness of mini-course-9 'Though questions in Intermediate grades', with 'questioning strategies', a package consisting of a manual and provision for a group to meet and work through a series of exercises. They found that mini-course achieved its specific aim

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'of training teachers to ask significantly greater percents of higher cognitive questions and it also appeared to be getting teachers to ask a strikingly greater percentage of analytic questions in comparison with the questioning strategies group.

Shea (1971) demonstrated the effectiveness of selected minicourses used in combination with practice teaching in developing skills in students in a pre-service Teacher Education Programme.

3.6.0 Studies Pertaining to Integration Techniques in Microteaching:

Recently there has been some new innovations in teacher education and according to Griffiths (1973), the microteaching may be regarded as an integral component of the particular course. This approach is exemplified in some educational psychology courses offered at Stirling University and New University of Ulster in UK where a new name of 'miniteaching' has been emerged (1976).

Hargie (1982) writes that miniteaching is the process in which students are provided with a programme wherein they teach short lesson to small group of pupils and are gradually given increases in both the length of lessons and number of pupils as the training progresses. Here pupil teachers are required to teach skills (individually) at first and gradually they teach combination of skills to facilitate the integration and interaction of the skills in coherent fashion. It is argued that this approach is more beneficial both in theory and practice than Stanford system, although no research comparing minicourse with microteaching seems to have been conducted till date.

Miniteaching has been the off-shoot of microteaching. Miniteaching is very much related to integration of teaching skills, about which much has not been done in abroad.