Chapter - II

MICROTEACHING

Section - A

The Concepts of Microteaching and Self-Instructional Microteaching

1. Introduction

Microteaching was originally constructed with the aim of facilitating the student teacher's transition from theory to practice. The education of secondary school teachers at Stanford University earlier contained one summer of 'observation of teaching and other activities' and 'practice teaching' out in neighbouring high schools as preparation for internship teaching with full responsibility for two classes. The method was considered ineffective from several viewpoints. It took a lot of time and lacked concrete goals. The latter meant that the programme was difficult to evaluate correctly, that the student teachers had difficulty in seeing the connection between theory and practice, and that their motivation for education was thus low.

"A role-playing situation called "demonstration lesson" was then introduced. In this the student teacher was confronted
with four role-playing pupils - “There was Eager, who responded positively and vigorously regardless of the travesty of the teaching. There was Slow Poke, who never did quite catch on. There was Know-It-All, who anticipated the teachers’ stratagems, examples, and from time to time offered alternative approaches to the instructional procedure. And finally, there was Couldn’t Care Less, who engaged in various destructive manoeuvres, from talking, to noise-making, to the construction of paper aeroplanes, to walking out of the class” (Allen and Ryan 1969, p.11). Furthermore the environment was manipulated, curtains were drawn, the lights put out, the pupils were placed at the corners of a large table, and a projection screen was pulled down over the blackboard” (23:18-19).

As practice in humility the demonstration lesson was a success, but as a basis for teaching critique it was too unwieldy, too many mistakes were made. The student teachers wanted a less artificial practice situation with real pupils and the freedom to teach their own subject (which they did not have in the demonstration lesson). The supervisors, well aware of the student’s incapability of constructively managing more than a couple of critical comments at a time, expressed for their part a wish for a less complex situation.
Thus was born the idea of microteaching.

Microteaching was thus conceived and first practiced in the context of Stanford University's teacher education programme in 1963.

2. Meaning of Microteaching

"Microteaching is a training technique which requires student teachers to teach a single concept using specified teaching skill to a small number of pupils in a short duration of time. The most important point in microteaching is that teaching is practised in terms of definable, observable, measurable, and controllable teaching skills" (75:8).

"Microteaching is most succinctly described as a teaching situation which is scaled down in terms of time and numbers of students. In typical practice this has meant a four to twenty-minute lesson taught to three to ten students. Usually a single microteaching episode for any given teacher includes teaching a lesson and getting immediate supervisory and pupil feedback on the effectiveness of the strategy and performance" (3:75).

In this way, complexities of the normal class teaching are simplified in microteaching by -
i. Practicing one component skill at a time.

ii. Limiting the concept to a single concept.

iii. Reducing the class-size to 5-10 students.

iv. Reducing the duration of the lesson to 5-10 minutes.

Microteaching, therefore, has been described as a "scaled down teaching encounter" or "miniatuized classroom teaching".

3. Essential Propositions of Microteaching

Allen and Ryan (2:2-3) in his comprehensive book on 'Microteaching' gave the following as the essential propositions of microteaching.

First, microteaching is real teaching. Although the teaching situation is a constructed one in the sense that teacher and students work together in a practice situation, nevertheless, bona fide teaching does take place.

Second, microteaching lessens the complexities of normal classroom teaching. Class size, scope of content, and time are all reduced.

Third, microteaching focuses on training for the accomplishment of specific tasks. These tasks may be the practice of instructional skills, the practice of techniques of teaching, the mastery of certain curricular materials, or the demonstration of teaching methods.
Fourth, microteaching allows for the increased control of practice. In the practice setting of microteaching, the rituals of time, students, methods of feedback and supervision, and many other factors can be manipulated. As a result, a high degree of control can be built into the training program.

Fifth, microteaching greatly expands the normal knowledge-of-results or feedback dimension in teaching. Immediately after teaching a brief micro-lesson, the trainee engages in a critique of his performance. To give him a maximum insight into his performance, several sources of feedback are at his disposal. With the guidance of a supervisor or colleague, he analyzes aspects of his own performance in light of his goals. The trainee and the supervisor go over student response forms that are designed to elicit students' reactions to specific aspects of his teaching. When the supervisor has videotape available, he can use videotape playbacks to help show the teacher how he performs and how he can improve. All this feedback can be immediately translated into practice when the trainee reteaches shortly after the critique conference.

4. Microteaching Cycle

The standard use of the term 'microteaching cycle' involves the programme of the following type.

1. Study skill. A particular skill is defined to student teachers in terms of teaching behaviours and the objectives which such behaviour is aimed at achieving.

2. Observation of skill. Video tape or films on specific skill are shown or written materials or tapes on specific skills are provided to demonstrate the teacher's use of particular skill in microteaching or in normal classroom teaching situation.
iii. **Micro lesson plan.** The student teacher plans a short lesson in which he can use the skill.

iv. **Practice skill.** The student teacher teaches the lesson to a small group of pupils which is video taped, audio taped or observed by supervisor and/or peers.

v. **Feedback.** Feedback is provided to the student teacher by video tape or audio tape recorder, who observes or listens and analyses his lesson with the help of supervisor. The supervisor attempts to make reinforcing comments about instances of effective use of the skill and draws the student's attention to other situations where the skill could have been exercised.

vi. **Re-plan.** In the light of the feedback and supervisor's comments, the student teacher replans the lesson in order to use the skill more effectively.

vii. **Re-teach.** The revised lesson is re-taught to different group of pupils.

viii. **Re-feedback.** Feedback is again provided on the re-teach lesson which is analysed with the help of the supervisor.

The "teach re-teach cycle" may be repeated till adequate level of skill acquisition takes place.

The microteaching cycle is diagrammatically shown as below -
Figure 1: Microteaching Cycle
5. Component Skill Approach in Microteaching

A hypothesis central to microteaching is that teaching can be described in terms of component skills. These skills of teaching are not necessarily discrete but they are considered to be identifiable and therefore capable of independent practice.

The assumptions underlying this approach are -

i. Skills considered useful for effective teaching can be defined and isolated in terms of overt behaviour.

ii. There are certain basic teaching skills that can be used by every teacher in a variety of situations.

iii. If the training objectives of a course are set down precisely in terms of skills, the task of teacher training is clarified and results can be reliably evaluated (631:1-2).

6. Microteaching Skills

A teaching skill is defined as a set of teaching behaviours which are especially effective in bringing about desired changes in students. The following skills are representative of the general teaching skills that can be
isolated, described, practised and developed at many levels for teaching many different subjects.

1. Set induction
2. Stimulus variation
3. Closure
4. Silence and non verbal cues
5. Reinforcement of student participation
6. Fluency in asking questions
7. Probing questions
8. Higher-order questions
9. Divergent questions
10. Recognizing attending behaviour
11. Illustrating and use of examples
12. Lecturing
13. Planned repetition
14. Completeness of communication

7. Self-Instructional Microteaching Course - Training of In-service Teachers

Improvement of teaching skills of in-service teachers is possible through microteaching approach. But the standard microteaching model used for pre-service teachers may not be useful to in-service teachers. As in-service teachers are largely responsible for their own learning and without many of the insecurities characteristic of pre-service...
trainees, they should find it unnecessary and no doubt undesirable to rely on a supervisor for authoritative guidance, moral boosting, or as a resource person.

The basic unit of each self-instructional course, originally developed by Borg at the Far West Laboratory, California is an instructional sequence. Each instructional sequence consists of about three hour cycle with learning activities distributed as shown in the figure given below (83:3).
Figure 2: Instructional Model of the Self-instructional Microteaching Course (Borg Model)
The following self-instructional materials are provided to the teacher.

1. A hand-book for the detailed study of the skills with self evaluation forms

2. Observation of the skill - in two sets of video tapes
   a. Cued video tapes which illustrate the three related skills of a sequence, and
   b. A model lesson which shows a teacher using three skills.

On the basis of self study and observation, teacher prepares lesson plan for himself and practices the skill.

Feedback is provided by means of video tape recording and the teacher's use of the skill is evaluated by means of self-evaluation guides in the hand-book, i.e., by means of self coding.

This is followed by revising and re-teaching the micro lesson with a different group of pupils and re-evaluating the re-teach.

Ferrett Elizabeth (84:348-62) has suggested that courses of self-instructional and self evaluative microteaching could
be a particularly valuable technique for use with in-service teachers.

6. Special Features of Self-Instructional Microteaching Course

Self-instructional course differs from microteaching in several ways that makes it more useful as an in-service education programme.

i. Self-instructional microteaching course provides a self-contained package of materials that can be used in any school where a video tape or audio tape recording system is available.

ii. Self-instructional microteaching course provides feedback immediately through self evaluation and peer interaction rather than through the external supervisory feedback used in microteaching.

iii. Self-instructional course focuses on specific skills rather than generalities.

iv. Self-instructional course provides an opportunity to teachers to get training in instructional skills according to their needs and abilities.

v. It individualizes in-service training to teachers.
Section B

Research on Effectiveness of Microteaching and Self-Instructional Microteaching Courses - A Review

1. Effectiveness of Microteaching

"A study was carried out at Stanford in the summer of 1963 on the effectiveness of the first microteaching clinic (Bush, 1966). The findings included: (i) the microteaching group performed at higher level of teacher competence than the traditionally prepared group (the criteria being Stanford Teaching Competence Appraisal Guide scores), (ii) performance in microteaching situation was a good predictor of subsequent classroom performance, (iii) the trainees' acceptance of microteaching value was high, and (iv) significant changes were produced in the three skills practiced in microteaching" (26:28-29). "A replication of this study was carried out by Kallenbach and Gall (1969) who found no differences in ratings between control and experimental group either immediately after training or one year later. These authors also however concluded that microteaching was more efficient than the conventional method in that it required one fifth of the time and created fewer administrative problems" (60:29).
In the spring of 1967, a three day workshop was conducted for college teachers at Vanderbilt University (33:141-142) under the auspices of the American Society for the Engineering Education. The participants in the workshop came from Tennessee A & I State University, North Carolina A & I, Tuskegee University, Southern University, and Prairie View A & M College. The micro-teaching clinic was conducted by James M. Cooper and David B. Young, then doctoral students at Stanford University, as part of the three-day workshop. Each participant taught a ten minute diagnostic lesson which he had previously prepared. The lesson was videotaped and a ten minute critique was followed, using student (college engineering students) and supervisory feedback. During the critique, the skill of varying the stimulus was introduced, both orally and in written form. The behaviour to be practiced was clarified, and the college teachers had a half hour break to prepare for the reteach. The reteach lesson followed, again being video-taped and the lesson analyzed in terms of the teacher's use of the skill. A survey of the twenty participants revealed the microteaching to be a unanimous success.

A effectiveness study was carried out in Texas by Bell (1968) using home economics teacher trainees as subjects. She compared a control group who had undergone teaching
practice with an experimental group who had participated in microteaching after their teaching practice. She found that the microteaching group showed significant gains in teaching performance from initial lesson to final lesson (8:29).

A study involving a control vs. experimental groups design was carried out by Goodkind (1966). It may be pointed out here that the experimental group followed the microteaching approach. He found that the experimental group of teachers displayed:

1. Greater awareness and use of specific personal habits and mannerisms.

2. Greater awareness and use of specific teaching acts and techniques.

3. Greater insight into the activity and inter-relationships of children within the classroom.

4. Greater awareness of the problems of structuring and pacing in their teaching (47:30).

From 1966 to 1968 Perlberg and O'Bryant (1970) in a study conducted at the University of Illinois explored some uses of microteaching techniques and videotape recordings.
to improve university teaching. Two models were used in the taping of classroom teaching situations, analysis and reteaching. They were the 'individual model', in which 'a helping relationship' was established between a senior faculty member and a teaching consultant, and the 'group model', involving a weekly seminar for all new instructors during which their tapes were analyzed and evaluated by their peers. The overall results of the Illinois study confirmed the hypothesis that both microteaching and videotape recordings were instrumental in achieving behavioural changes in classroom teaching (61:44-45).

Obudasa (1971) found that microteaching was more effective than the traditional technique in the development of indirect teacher behaviour (29:59).

According to Marker (69:59-83) microteaching is a better technique than the conventional approach in the development of certain teaching skills, namely - reinforcement and silence and non-verbal cues.

V. Krishnamurthy, Birla Institute of Technology and Science, Pilani (64:149-164) conducted an Workshop-cum-Seminar on Methods of Teaching. Increasing the level of teaching efficiency in the Institute through the interaction between the experienced and not so experienced teachers was
the objective of the workshop. The Workshop-cum-Seminar on Methods of Teaching was instituted in January 1974. The workshop started with 8 sessions with the first series and grew up to 12 sessions in the fourth and fifth series. A two hour session was held each week after regular working hours of the Institute. The participants registered in the workshop came from all disciplines and represented all levels of teaching experience. Experience of methods used in the workshop showed that the optimum number of participants was about 15.

A typical schedule followed during the Workshop-cum-Seminar is presented below -

1. Introduction
   
   What makes a good teacher? Behavioural Objectives and Assignment on Behavioural Objectives.

2. Behavioural Objectives continued. Preparation of Course outlines and assignment on course outlines.

3. Scheduling of lessons, Objectives etc. Assignment on designing of question papers.

4. Micro-teaching or single concept of teaching.
   
   Each participant to present a single concept
lesson in 15 minutes followed by a discussion on the teaching method (not the subject presented).

5. Designing, setting and analysing examinations.
6. Micro-teaching as above.
7. Grading by the use of case studies.
8. Micro-teaching as above.
10. Audio visual aids.

All the sessions gave a noticeable boost to the morale of the participants who were involved in the sessions. The micro-teaching session gave them a sense of shock in some cases where they suddenly realized that a objective assessment of their habits had surprising revelations for them; and a sense of confidence to some others where they realized that they had certain positive aspects of good teaching without their being aware of it. In many, these micro-teaching sessions and the entire workshop resulted in a sense of challenge to try and improve the quality of the teaching and the hope that it is not impossible.

After all these elaborate efforts which went into the workshops it was discovered that though this exercise give a
lot of provocative ideas and formulations of policies regarding the entire spectrum of handling a course, teaching and evaluation, the main problem of classroom teaching did not obtain that amount of intense emphasis that it deserved especially in the case of new faculty recruits. Keeping this in mind the Intensive Teaching Workshop was designed and instituted in July 1976.

One of the strategies of the Intensive Teaching Workshop was to restrict oneself to the teaching methodology in the classroom. The objective is deliberately narrowed down to the development of proper teaching habits in the classroom to the exclusion of everything else. The capability of the teacher to handle his subject is never questioned.

In the INTW, however, a deliberate, conscious (and successful) attempt was initiated to separate the content part of presentation from the methodology of the presentation. It was realised that these two were linked. But a beginning could be made only by delinking them.

According to the typical schedule of a session, two speakers (sometimes three) would have been lined up in advance. The speaker - participant would take the floor and conduct his class almost as exactly as he would in his actual classroom. He would be given thirty to fifty minutes.
At the end, all the teacher participants (perhaps some of the faculty organizers also) would comment, criticize and give constructive suggestions about the teaching. They would also express what they learnt as useful to them from this demonstration. This usually takes half an hour. Then it would be the other speaker's turn and the cycle continues. At the end of the day's session the faculty organizers would meet and review the day's performance. The participant concerned would meet the leader (along with a few of the other organizing faculty) possibly the next day and have an in camera discussion with them on his own performance. As the workshop advances, each speaker-participant would get several turns according to his need.

The first such workshop was conducted from September to November 1976; it had total of 24 sessions. The second workshop was conducted from February to April 1977; it had total of 21 sessions. The third workshop was conducted from August to November 1977; it had total of 29 sessions.

The IWW dealt with three facets of teaching methodology; namely, (a) the techniques of visual communication, (b) the techniques of oral communication, and (c) awareness of the audience.
After every session of the workshop the catalyst
teachers met in camera and reviewed the day's performance
of each of the participants and especially of those who gave
the demonstrations that day. It was clear that many of the
problems that were raised were so intimate to the participants
concerned that perhaps one might not wish to handle it in
public. They have an in camera session with each participant
soon after (may be the day after) his demonstration. In this
in camera session a few of the organiser-members were present,
and the participant was allowed to review his own performance
in the light of the various norms that had been evolved. The
experience of these in camera sessions is one of the major
assets of this workshop. It was in these sessions that a new
dimension for the workshop emerged. These sessions established
that it was possible to exploit the psychology of motivation
for self correction. By a heart to heart frank talk with the
participants, strategies for improving the quality of
presentation at his next appearance were chalked out. In
many cases the participant himself came forward with powerful
suggestions for improving on his own. In this way each
participant was allowed to develop from his own plateau and
reach a high plateau.

Passi and Shah (77) found that microteaching is effective
in developing the skills of questioning, reinforcement, silence
and non-verbal cues, and illustration and use of examples. They found the technique feasible and student teachers had developed favourable attitude towards the technique.

Singh (93:411) showed that microteaching is an effective technique as compared to interaction analysis and conventional approaches regarding modification of teacher behaviour.

"A valuable study of the effects of micro-teaching in certain defined areas has been carried out by Levis (1975) of Macquarie University. Levis gives a very thorough statement on research in the area and reports on a well-designed study of his own. The overall results of the study indicate that practice within both the microteaching and controlled student-teaching settings enabled trainees to make appreciable gains in each of the questioning skills treated. However ... the findings of the study support the superiority of the microteaching format for the initial practice of selected teaching skills" (67:117).

Bhattacharya (9:70) reports a pilot study on microteaching in civil engineering. The objective of the pilot study was to explore the feasibility of the use of audio-tape recording and microteaching technique to develop the teaching skill 'Indirectness' among technical teachers of
civil engineering in a simulated situation. The sample consisted of 14 teacher-trainees of the Technical Teachers' Training Institute, Calcutta. It was found that the audio recording and microteaching technique would develop successful 'Indirectness' skill, and the attitude of teacher-trainees towards the microteaching technique of teaching skill development was highly favourable.

Das et al. (34) undertook a large experimental field study in 1975-76 at the Department of Teacher Education, WIBERT in collaboration with CASE, Beroda, and nine college/university departments of education. The main finding of the study is that the student teachers trained through microteaching or modified microteaching technique acquire higher general teaching competence as compared to the student teachers trained under the traditional teacher training technique or the usual practice teaching programme.

Johnson (1977) studied effects of Flanders' training combined with microteaching on teachers' interaction behavior, questioning, and reinforcement techniques. The 14 community and junior college faculty participants (single-group design) changed from pre-to-post in the desired direction on all eight teaching performance variables (54:415).

Blumenthal has described a technique used in the Department of Psychology at California State College, San
Bernardino, in which faculty members meet regularly as a group to obtain diagnostic feedback from one another on their teaching methods. In each session, one of the group members presents a 20-minute videotape filmed in one of his or her own classes, then the remaining participants discuss the tape at length to provide feedback and suggestions for improvement. Evidence of the effectiveness of the program is limited to participant's subjective reports that their classroom teaching has improved (11:49).

Fassi (75), Lalita (65), and Joshi and Biswal (58) at the Centre of Advanced Study in Education (CASE) have produced useful instructional materials for the development of certain teaching skills. These materials are tried and it is found that they are quite effective in changing teacher behaviour.

2. Effectiveness of Self-Instructional Microteaching Course

D.B. Young (104:29-30) studied the evaluation of self-instruction using modeling and videotape feedback to train teachers in the use of lecturing skills (use of examples, etc) in techniques of management. During the first phase of the study, treatment alternatives focused trainees' attentions on the skills with the use of contingent focus (comments recorded on a second sound track of videotape
parallel to the occurrence on the model tape of the behaviour to be learned) or the use of a non-contingent focus provided by a written guide. The third treatment consisted of a written explanation of the behaviour (the 'symbolic' model). Class room techniques were modelled on a 16 mm film which showed eleven problematic class room situations, each with three alternative teacher reactions, a videotape lesson with the alternative to each of six situations, and a symbolic model.

In the second phase of training, which took place several months later, trainees were exposed to three different modeling protocols for the lecturing skills. The 'specific illustration' model simply showed a teacher giving examples of the skill in front of the class.

The 'complete' model displayed the behaviour in a lesson context with pupils, and was presented with either a consistent or a non-consistent focus. Self-feedback procedures involved trainees viewing their own performance with a contingent focus (with a supervisor's critique dubbed on the videotape) and a non-contingent focus.

Results indicated that the most effective training procedure was a combination of a 'complete' model with
contingent focus, a specific illustration model, and a self-viewing of performance with a contingent focus.

Borg et al. Far West Laboratory for Educational Research and Development, California (14:220-230) conducted an experimental study with the following objectives in view:

1. To design self-instructional microteaching course (Minicourse) on 'Effective Questioning' for the use of in-service teachers, and

2. To measure the changes in teaching behaviour after the completion of the minicourse.

The self-instructional microteaching course was confined to the following questioning skills with five instructional sequences.

Instructional sequence - One

Skills covered:

1. Ask questions, pause 3 to 5 seconds, then call on pupil

2. Deal with incorrect answers in an accepting non-punitive manner
iii. Call on both volunteers and non volunteers in order to keep all pupils alert and distribute participation

**Instructional sequence - Two**

Skills covered:

iv. Redirection - directing the same question to several pupils

v. Framing questions that call for longer pupil responses

vi. Framing questions that require the pupil to use higher cognitive processes

**Instructional sequence - Three**

Skills covered:

vii. Prompting to improve a weak pupil response

viii. Seeking further clarification of the pupil's response

ix. Refocussing the pupil's response

**Instructional sequence - Four**

Skills covered:
x. Teacher should not repeat his question
xi. Teacher should not answer his own question
xii. Teacher should not repeat pupil's answer

Forty-eight in-service teachers in twelve schools participated in the main field test of minicourse. Each subject was supplied with the following instructional materials -

i. Teacher's hand-book: It provides more information on the skills to be learned and contains forms to be used by the teacher in evaluating his performance during the course.

ii. Practice instructional film and practice model film which give him specific class-room examples of skills he is to learn.

The course as such continued for about 20 days, five days for each instructional sequence at the rate of three hours a day.

The effectiveness of the course was tested by comparing pre-course, immediate post-course and delayed post-course by five months interval video tapes of lessons given by participating teachers in their normal class-rooms. The
The data were subjected to statistical treatment via "t" test. The analysis of data revealed the following -

i. Participation in minicourse led to -
   a. Improvement in the use of skill of redirection,
   b. Improvement in the use of skill of prompting and clarification,
   c. Improvement in framing questions that call for longer pupil responses,
   d. Improvement in the skill of framing questions that requires the pupil to use higher cognitive process,
   e. Improvement in the skill of ask questions, pause 3 to 5 seconds, then call on pupil,
   f. Improvement in the skill of dealing with incorrect answers in an accepting non-punitive manner, and
   g. Improvement in the skill of calling on both volunteers and non-volunteers in order to keep all pupils alert and distribute participation.

ii. Participation in minicourse led to reduction in
   a. teacher repeating his own question,
   b. teacher answering his own question, and
   c. teacher repeating pupil's answer.
iii. Participation in minicourse did not improve
the skill of refocusing.

iv. All the improvements due to the course sustained
even five months after the experiment.

Ferrott Elizabeth et al., Microteaching Unit, Flyde
College, University of Lancaster (82:35-54) conducted an
experimental study with the following objectives in view—

i. To adopt self-instructional microteaching course
(mini course) developed in America by Borg, et al.
on 'effective questioning',

ii. To measure the changes in teaching behaviour
after the completion of the self-instructional
microteaching course,

iii. To compare the results of the research data
with the American research data, and

iv. To study teacher’s reactions and attitude to
the self-instructional microteaching course.

The self-instructional microteaching course was confined
to the following questioning skills and habits.
1. Encouraging pupil's responses -
   a. Pausing
   b. Handling incorrect responses
   c. Calling on non volunteers

ii. Improving inadequate pupil's responses -
   a. Prompting
   b. Seeking clarification
   c. Refocusing

iii. Improving the amount and quality of pupil's participation -
   a. Redirection
   b. Questions calling for sets of related facts
   c. Higher order questions

iv. Eliminating habits which interrupt classroom discussion -
   a. Repeating one's own questions
   b. Answering one's own questions
   c. Repeating pupil's answers.

Twenty-eight teachers participated in the course. All were inservice teachers working in secondary schools, junior schools and small country schools. A handbook and two sets
of videotapes were provided to each participant. The basic unit of the course was a three hour instructional sequence with learning activities involving the following steps -

Step I - **Study skill**: Read Teacher's Hand-book about several related teaching skills.

Step II - **Observe skill**: (a) View illustrations of some related skills, (b) View microlesson in which a teacher uses the skill.

Step III - **Practice skill**: (a) Prepare a microlesson using supplement in hand-book. (b) Conduct a microlesson to apply skills.

Step IV - **Evaluate use of skill**: Use self evaluation forms given in the hand-book and get feedback.

Step V - **Refine skill**: (a) Replan and conduct a "reteach" microlesson. (b) Evaluate use of skill in reteach.

The whole course consisted of five instructional sequences. The first sequence was designed to familiarize the teacher with the microteaching technique. Each instructional sequence focuses upon three related teaching skills or habits. The course continued for about five weeks.

The effectiveness of the course was tested by comparing pre-course, post-course, and four months after the course.
videotapes of lessons given by participating teachers in their normal class rooms. At the end of the course a rating scale was administered to investigate reactions of the participants to the course. The research data were subjected to statistical treatment via 't' test.

The analysis of data revealed the following -

i. "Effective questioning" indicated a number of clear and stable changes in patterns of questioning behaviour, the most important of which in probably a consistent reduction in the percentage of discussion time takeup by teacher's talk. This is paralleled by changes in more specific teaching skills such as prompting, redirection, higher order questioning and the avoidance of habitual repetition of pupil's answers. The improvements gained through the course persisted even after four months of the course.

ii. Produced results of the course were similar to the results of the American field study of Borg et al. 

iii. The course was favourably received by the teachers. All were willing to enrol in another course using similar instructional techniques, and most of them (82%) were willing to recommend the course to other teachers in their schools.
Patted and Suryavanshi (80:110-12) conducted an experimental study with the following objectives in view:

i. To design self-instructional microteaching course material for the use of college lecturers; and

ii. To evaluate the effectiveness of the self-instructional microteaching course in improving lecture quality of college lecturers.

The self-instructional microteaching course was confined to the following three lecture skills:

i. Skill of explaining,

ii. Skill of concretizing abstract ideas with examples, and

iii. Skill of stimulus variation.

Eight Biology lecturers working in junior and degree colleges of Dharmad participated in the experiment.

The self-instructional microteaching course followed the instructional model given below.
Figure 3: Self-Instructional Microteaching Model
(Patted and Suryavanshi Model)
Each participant lecturer was supplied with the self-instructional material in the form of 'Teacher's Handbook', and a audiotape recorder with cassette. The course as such continued for about a month at the rate of one hour a day. Effectiveness of the course was tested by comparing pre-course and post-course ratings of lectures given by the participants in their normal lecture classes. For this purpose, a rating scale was prepared and used. The reliability of the scale was found to range from 0.947 to 0.953. The data were subjected to statistical treatment via 't' test.

The analysis of data revealed the following —

i. Participation in self-instructional microteaching course leads to improvement of lecture quality not only with reference to the lecture skills considered in the course but also with reference to the skills not considered in the course, thus leading to over-all improvement of lecture quality.

ii. The finding holds good in case of fresh/less experienced as well as experienced college lecturers.

The experiment showed that skills learned in the microteaching setting through self-instructional course transfer to the normal class-room.
In view of the findings of the study, it was concluded that one of the promising programmes for improving college instruction in the Indian setting is self-instructional microteaching course.

Balikurj (6) conducted an experimental study with the following objectives in view -

1. To prepare Mathematics instructional competence scale,

2. To diagnose the weak instructional skills of in-service Mathematics teachers,

3. To prepare remedial self-instructional microteaching course (SIMO) materials to strengthen weak skills,

4. To provide in-service training to the teachers through remedial self-instructional microteaching course,

5. To evaluate the effectiveness of the remedial self-instructional microteaching course materials in improving Mathematics instructional competence,

6. To construct a rating scale to study the reactions of participant teachers to the remedial self-instructional microteaching course, and
vii. To study the reactions of participant teachers to the SIMC.

The self-instructional microteaching course was confined to the following two instructional skills, since most of the teachers were found to be weak in these skills.

a. Skill of asking probing questions, and
b. Skill of concretizing abstract ideas with examples.

Fourteen Mathematics teachers working in secondary schools participated in the experiment.

The self-instructional microteaching course followed the instructional model given below -
Study skill

Re-evaluate

Re-teach

Re-plan

Evaluate skill and get feedback

Listen to audio model of skill

Plan skill based micro lesson

Re-study

Relisten to audio model

Practice skill

Finalise micro lesson

Figure 4: Self-Instructional Microteaching Model (Selfkörö Model)
Each participant teacher was supplied with the following materials:

1. Teachers' hand-book of self-instructional microteaching course,
2. Audio cassette containing model micro lessons,
3. Extra self-evaluation forms, planning supplement and lesson plan forms, and
4. Typical weekly calendar of the course.

The course as such continued for about 28 days at the rate of 2 hours a day. Effectiveness of the course was tested by comparing pre-treatment scores with immediate post-treatment scores, and immediate post-treatment scores with delayed post-treatment scores. For this purpose, a rating scale was prepared and used. The inter-rater reliability of the scale was found to range from 0.77 to 0.88 (n=20). The convergent validity of the scale was found to be 0.665 (n=20). Reactions of the participant teachers to the SIMC were analysed in terms of percentages.

The analysis of the data revealed the following:

1. The remedial self-instructional microteaching course is effective in improving Mathematics
general instructional competence of in-service teachers of secondary schools in terms of the following skills -

a. Skill of explaining,
b. Skill of asking initial questions,
c. Skill of asking probing questions,
d. Skill of fluency in questioning,
e. Skill of concretising abstract ideas with examples, and
f. Skill of using black board.

ii. Remedial self-instructional microteaching course is effective in improving the skill of asking probing questions of in-service Mathematics teachers of secondary schools.

iii. The remedial self-instructional microteaching course is effective in improving the skill of concretising abstract ideas with examples of in-service Mathematics teachers of secondary schools.

iv. The remedial self-instructional microteaching course is not effective in improving the explaining skill of in-service Mathematics teachers of secondary schools, not studied and practiced.
v. The remedial self-instructional microteaching course is effective in improving the skill of asking initial questions of in-service Mathematics teachers of secondary schools, not studied and practised.

vi. The remedial self-instructional microteaching course is effective in improving the skill of fluency in questioning of in-service Mathematics teachers of secondary schools, not studied and practised.

vii. The remedial self-instructional microteaching course is not effective in improving the skill of using black board of in-service Mathematics teachers of secondary schools, not studied and practised.

viii. In-service teachers sustain Mathematics general instructional competence strengthened by the remedial course even two months after the training.

ix. In-service teachers sustain the skill of probing strengthened by the remedial course even two months after the training.

x. In-service teachers sustain the skill of concretizing abstract ideas with examples
strengthened by the remedial course even two months after the training.

xi. In-service teachers sustain the skill of asking initial questions not studied and practised but strengthened by the remedial course even two months after the training.

xii. In-service teachers sustain the skill of fluency in questioning not studied and practised but strengthened by the remedial course even two months after the training.

xiii. Majority of participant teachers favoured the self-instructional microteaching course for the improvement of instructional competence.

The experiment showed that study and practice of probing and concretizing skills through SIMC improved the use of these skills in regular classroom teaching of participant teachers. The training gained in the microteaching setting is transfered to the regular classroom teaching.

In view of the findings of the study, it was concluded that one of the promising programmes for improving mathematics instructional competence of in-service teachers in the Indian setting is self-instructional microteaching course based on the instructional model suggested above.
Thus, "The studies of the effectiveness of microteaching strongly support its use in teacher education. Not only does it seem to facilitate significantly the acquisition of teaching skills and the development of favourable attitudes towards teaching, but it does so in relatively short time" (100:7). The merit of the idea of microteaching thus has not only been positively demonstrated within the framework of preservice training, but also within the context of inservice training and educational research. Microteaching is now like a mature river flowing through the broad landscape of teacher education at all levels. It has spread over most of the educational institutions. It is mini in nature but mighty in effect. It has a potential for revolutionising the teacher training programme.

The present study is undertaken with a view to prepare self-instructional microteaching course for college teachers and evaluate its effectiveness.