CHAPTER VI

SUMMARY, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS

This chapter is devoted to the summary of the investigation under the following headings : (i) Introduction, (ii) Method and Procedure, (iii) Results and Discussion, (iv) Conclusions, (v) Educational Implications and (vi) Suggestions for Further Research.

6.1.0. INTRODUCTION

Teacher education in India and abroad, inspite of many efforts, could not improve much. In view of studies reviewed in India (Education Commission, 1966; Palsane and Ghanchi, 1967; Joseph, 1967; Sharma, 1968; Srivastava, 1970; Mehrotra, 1974;) and abroad (Popham and Baker, 1968 and Peterson 1973), it can be safely concluded that teacher training programmes proved to be

inadequate in meeting the needs of prospective teachers.

The important reason pointed out by Buch (1974), Passi and Padma (1975), and Travers (1975) is that teacher education has inadequate empirical basis to streamline the programmes.

Moreover, the common sense, approaches to student teaching, namely, the'Born Teacher' approach, the 'Practising Act' approach and 'Model the Master Teacher' approach, could not produce tangible results upon prospective teachers. Further the global criterian approach with regard to teacher effectiveness in student teaching seems to have misled teacher educators and researchers. Gage (1972) pointed out that if global approach could not work then follow the path as mature sciences had adopted. The path adopted by more mature sciences is of micro criterian instead of global criterian. It helps in studying the cause and effect relationship among the variables. Hence, the present situation has resulted in the emergence of analytical approach.

In view of analytical thinking in teacher education, especially in the field of teaching, modern scientific

approaches towards student teaching have come into being. These modern scientific approaches are : the 'Clinical' approach, 'Master the Teaching Model' approach and the 'Technical Skills' approach. Recently 'Technical skills' approach has been adopted as an innovative technique of teacher training. A complex activity like teaching, is analysed into a number of teaching behaviours for the sake of better understanding; they are termed as 'technical skills' (Bush and Allen, 1963). Gage (1967) observed that technical skills are specific instructional techniques and procedures that a teacher may use in the classroom.

When teaching, analysed into technical skills, is made the focus of attention, it becomes easier to derive objective and reliable measures of changes in teacher behaviours. Further, this approach used under the paradigm of microteaching and simulation, based upon behaviour modification techniques has produced encouraging results.

Microteaching can be described as a 'laboratory technique' developed at Standford, California by Allen and associates (Allen, 1966) in 1963. The complex task is analysed into smaller components. It makes the learning tasks more manageable for the beginners. In other words,

it is a technique of applying scientific principles to the art of teaching (McAleese and Unwin, 1971). These views amplify the importance of microteaching as a training technique and help to define its concept.

Microteaching is defined as a 'scaled down teaching encounter in class size and class time' (Allen, 1966). It is a scaled down in terms of class size (four to five students), length of the lesson (five to ten minutes), unit of content (one concept) and complexity of task (one skill). After teaching a brief lesson, the trainee and his supervisor critique the lesson. After the critique session, the trainee revises his lesson and reteaches it, usually to a different set of pupils or peers. Thus, teaching skills are practised either with real pupils or in simulation.

The component skills of teaching forms the basis of microteaching technique (Allen, 1966, Allen and Ryan, 1969). The skills listed by Allen and Ryan (1969) are : (i) set induction, (ii) stimulus variation, (iii) closure, (iv) silence and nonverbal cues, (v) reinforcement, (vi) fluency in asking questions, (vii) asking probing questions, (viii) asking higher order questions,

(iv) asking divergent questions, (x) recognising attending behaviour, (xi) illustrating and use of examples, (xii) lecturing, (xiii) planned repetition, and (xiv) completeness of communication.

Stimulus variation happens to be one of the most important teaching skills which is likely to pay immediate and rich dividends to teacher trainee for getting pupils maximum sustained attention. The skill of stimulus variation is concerned with the variations, the teacher can introduce 'within' and 'between' three aspects of his teaching: Variations in manner or personal teaching style; variations in the media and materials of instruction; and variations in the pattern and levels of interaction. Penny (1969) found that teacher's use of 'verbal markers of importance', such as ' Now this is important', was significantly related to pupil achievement in tests of social studies and English. Coats and Smidchens (1966) found that significantly superior student achievement resulted from 'dynamic' rather than 'static' lecture presentations. Rosenshine (1968), in his study of 'Behavioural Predictors of Effectiveness in Explaining' found that the incidence of teacher gestures and movements were significant variables in social studies lectures which

correlated with high pupil achievement in a comprehension test. McCoard (1944) in a study, using audio-tape of speaking and reading by forty, seventh and eighth grade teachers, found that expert ratings of the teacher's variation of both pitch and volume correlated highly with pupil achievement. Jersild (1928) and Ehrensberger (1945) found that significantly more was learned from speakers who varied their presentation than from speakers who did not employ variations.

Stimulus variation, with regard to sensory modes of communication in teaching is also supported by research. Recent investigations (Kay, 1958; Levin et al. 1971) suggest individual learning mode preferences of an auditory and visual nature. Other researchers have argued that young children learn more by auditory visual mode and vice versa.

Mehrabian (1968) in a study measuring verbal and vocal language modalities and combining these channels with the facial nonlanguage modality, found that the total message was fifty five percent facial, thirty eight percent vocal and only seven percent verbal. Thus, the study establishes a case for the study of nonverbal communication.

5

Therefore, in the light of the above discussion, the study of the skills related to stimulus variation, especially in the field of nonverbal communication in the classroom, was planned.

6.1.1. Statement of the Problem

The problem, entitled, ' Effect of Different Techniques of Feedback upon the Attainment of Teaching Skills Related to Stimulus Variation among Teachers', is an experimental study pertaining to the area of Teacher Behaviour in the Context of Student Teaching in Teacher Education.

The problem is staéed more specifically in terms of objectives, hypotheses and scope given below.

6.1.2. Objectives

The study was undertaken to fulfill the following three objectives :

(i) To study the feasibility of microteaching as an innovative technique in Indian conditions without the use of hardware.

(ii) To study the differential effect of three techniques of providing feedback on the attainment of teaching skills related to stimulus variation. Three techniques of poor feedback selected for the study were discussion, oral and written. Two cycles (four teach and reteach) per skill were delivered for practice. Peer supervisors and self ratings were taken on two skills and in the case of third skill only peer rating was taken. Skills related to stimulus variation were body movement, gestures and shifting sensory channels.

(iii) To study the transfer of training from microteaching under simulated conditions to real classroom teaching.

6.1.3. Hypotheses

H_1 - There is no differential effect of three different techniques of peer feedback - discussion, oral and written, upon the attainment of the skill of body movement.

H_2 - There is no practice effect of lessons upon the attainment of the skill of body movement.

H_3 - Peer and Self do not differ in their rating of the performance for the skill of body movement.

H_4 - There is no differential effect of three different techniques of peer feedback - discussion, oral and written, upon the attainment of the skill of gestures.

H_5 - There is no practice effect of lessons upon the attainment of the skill of gestures.

H_6 - Peer and Self do not differ in their rating of the performance for the skill of gestures.

H_7 - There is no differential effect of three different techniques of peer feedback - discussion, oral and written, upon the attainment of the skill of shifting sensory channels - total record of events.

H_8 - There is no practice effect of lessons upon the attainment of the skill of shifting sensory channels - total record of events.

H_9 - There is no differential effect of three different techniques of peer feedback - discussion, oral and written, upon the attainment of the skill of shifting sensory channels - total shifts in events.

H_{10} - There is no practice effect of lessons upon the attainment of the skill of shifting sensory channels - total shifts in events.

H_{11} - There is no difference in the attitude of three experimental groups (discussion feedback treatment - E_1; Oral feedback treatment - E_2; and Written feedback treatment - E_3) towards micro-teaching programme.

H_{12} - There is no difference in self evaluation of three experimental groups (discussion feedback treatment- E_1, Oral feedback treatment - E_2; and Written feedback treatment - E_3) towards microteaching programme.

H_{13} - There is no differential effect of two different techniques of training - microteaching simulation and conventional teaching practice with regard to general teaching competence, transferred to classroom teaching.

The hypotheses can be clarified further by explaining the key terms, namely, peer feedback, lesson, peer rating, self rating, attitude and self evaluation. The operational definitions can be given as follows :

(i) Peer feedback - Knowledge regarding the performance of the skill was provided by the peer supervisor that is microteacher's classfellow for improving the skill. The techniques selected for providing feedback, were discussion, oral and written.

(ii) Lesson - Lessons for practice were teach and reteach (first cycle) and teach and reteach (second cycle). In this manner, total four lessons i.e. two cycles per skill were practised.

(iii) Peer rating - Colleague rated the performance of the skill of the microteacher on different lessons practised in microteaching simulation.

(iv) Self rating - Microteacher after teaching the lesson, rated his own performance of the skill on seven point rating scale. He observed his own lesson in the light of the skill practised in microteaching.

(v) Attitude - After the experiment, the three experimental groups were asked to give reactions on five point scale related to different aspects of microteaching programme.

(vi) Self evaluation - After the experiment, the three experimental groups were asked to evaluate the microteaching programme on five point scale.

6.1.4. Scope

The experimental study having two phases (pilot study and final study) confines to the study of microteaching as a training technique in Indian context without the use of hardware material. The study focuses its attention on the process of providing feedback in microteaching situation and the extent of transfer of training from microteaching to real classroom teaching. Three skills of teaching have been selected for the study related to stimulus variation with special reference to nonverbal communication in the classroom.

6.2.0. METHOD AND PROCEDURE

The study was conducted under two phases - pilot and final.

The pilot study was conducted on a sample of eighteen B.Ed. students enrolled at the Faculty of

TABLE 6.1 :

A Schematic Picture of the Design

(Pretest and Posttest Parallel Group Design)

Pre-test on General Teaching Competence Observation Schedule (School Situation)			
Microteaching Simulation (Laboratory Stage)			Microteaching Real (School Stage)
E_1	E_2	E_3	Control (C)
Sample	Sample	Sample	Sample
ST-8 PS-2	ST-8 PS-2	ST-8 PS-2	ST-8 CS-1
Tools	Tools	Tools	Tools
As mentioned in Table 6.2	As mentioned in Table 6.3	As mentioned in Table 6.3	Discussion with C.S. G.T.C.O.S
Treatment	Treatment	Treatment	Treatment
Skills-3 (i) B.M. (ii) G (iii) S.S.C	Skills-3 (i) B.M. (ii) G (iii) S.S.C.	Skills-3 (i) B.M. (ii) G (ii) S.S.C.	Skills-All mentioned in GTCOS
Techniques of FB	Techniques of FB	Techniques of FB	Techniques of FB
(i) Discussion (ii) Oral (iii) Written	(i) Discussion (ii) Oral (iii) Written	(i) Discussion (ii) Oral (iii) Written	Global qualitative
Tools used after Laboratory Stage			
(i) Attitude Scale of Teacher Trainee towards Microteaching (ii) Self Evaluation Proforma for micro-teaching programme. (iii) Free Response Evaluation Proforma for Microteaching Programme.			
Posttest on General Teaching Competence Observation Schedule (School Stage)			

E - Experiment
ST - Student Teacher
PS - Peer Supervisor
B.M. - Body Movement
G - Gestures
S.S.C. - Shifting Sensory Channels
F.B - Feedback

Education and Psychology, The M.S. University of Baroda, Baroda for the session 1973-74. The final study was designed in the light of the experiences and the guidelines drawn from the pilot study. Table 6.1 shows a schematic picture of the design of the final study. It was conducted on thirty two B.Ed. students of the D.A.V. College of Education, Abohar (Panjab) for the session 1974-75. The purposes of the final study were to study the effects of three techniques of providing feedback - discussion, oral and written, on the attainment of teaching skills related to stimulus variation in microteaching under simulated conditions; and to study the transfer of training from microteaching under simulated condition to real classroom teaching. The final study constituted four groups : three experimental groups and one control group. The treatment variables selected in the design (pretest and posttest parallel group design) were three different techniques of peer feedback - discussion, oral and written, - in microteaching. The dependent variables were three technical skills of teaching, namely body movement, gestures and shifting sensory channels. Attitude and self evaluation of microteaching programme were also the dependent variables in the study.

5
52

6.2.1. Sample

Thirty two female student teachers were selected for the study out of 200 student teachers. Four groups of student teachers were matched on the basis of age, qualification, percentage of marks, teaching subjects and teaching experience. Both 'arts and science' graduates were homogeneously divided into four groups. Three of these four groups were given experimental treatment and fourth group was the control group. Group E_1 was given discussion feedback treatment, Group E_2 was given oral feedback treatment and E_3 was given written feedback treatment.

Six student teachers who were having M.A. and M.Sc. degrees, were selected as peer supervisors. Two peer supervisors, one M.A. and one M.Sc., were attached to each experimental group.

6.2.2. Tools

A brief description of tools, used for collecting the data, is given below. (For details, see Table 6.2.).

For collecting the bio-data of the student teachers, Personal Information Sheet, was used. The General Teaching Competence Observation Schedule (GTCOS) was used to see the general teaching competence of student teachers before the laboratory stage and after the laboratory stage that

TABLE 6.3 :

A Brief Description of Tools

Sr. No.	Name of Tool	Variable	Purpose
1.	Personal Information Sheet (Table 3.2)	Demographic Variables	Description of Sample
2.	... do... (Table 3.2)	Achievement Scores	Co-variate
3.	General Teaching Competence Observation Schedule	General Teaching Competence Scores	Co-variate
4.	Skill Evaluation Proforma for the Skill of Body Movement	Skill Scores on Body Movement	Criterian Variable
5.	Skill Evaluation Proforma for the Skill of Gestures	Skill Scores on Gestures	Criterian Variable
6.	Skill Evaluation Proforma for the Skill of Shifting Sensory Channels	Skill Scores on Shifting Sensory Channels	Criterian Variable
7.	General Teaching Competence Observation Schedule 'GTCOS)	Teneral Teaching Competence Scores	Criterian Variable
8.	Attitude Scale of Teacher Trainee towards Microteaching	Attitude Scores	Criterian Variable
9.	Self Evaluation Proforma for Microteaching Programme (Simulated Conditions)	Self Evaluation Scores on different aspects of Microteaching	Criterian Variable
10.	Free Response Evaluation ... Proforma for Microteaching Programme (Simulated Conditions)	Qualitative Responses related to Microteaching	Criterian Variable

is in school situation. This tool had twenty statements, each statement giving brief description of a teaching skill in behavioural terms. All these statements were to be rated on seven point scale. Three Skill Evaluation Proformas were used to evaluate the performance on the each skill - body movement, gestures and shifting sensory channels. Proformas for the skill of body movement and gestures, seven point rating scale was used whereas in the skill of shifting sensory channels, classroom events were recorded on Flanders' lines. After the laboratory stage, the Attitude Scale of Teacher Trainee towards Microteaching, the Self Evaluation Proforma for Microteaching Programme (Simulated conditions) and the Free Response Evaluation Proforma for Microteaching Programme (Simulated Conditions) were administered. The Attitude Scale of Teacher Trainee towards Microteaching and the Self Evaluation Proforma for Microteaching Programme (Simulated Conditions) were rated at five point scale. The Free Response Evaluation Proforma for Microteaching Programme (Simulated Conditions) invited only the qualitative reactions of the student teachers.

6.2.3. Treatments

Briefly stating, the treatment was administered to in the following manner :

5

(a) Pretest (School stage)

(b) Laboratory stage

(i) Characteristics of a teacher
(ii) Roles of a teacher
(iii) Skills of teaching
(iv) Skills related to stimulus variation
(v) Orientation to microteaching, simulation and role playing
(vi) Planning of microlessons
(vii) Training in three skills

(c) Administering of the Attitude Scale of Teacher training towards microteaching, the Self Evaluation Proforma for microteaching programme (Simulated conditions) and the Free Response Evaluation Proforma for Microteaching Programme (Simulated Conditions)

(d) Posttest (School Stage).

After giving the treatment, the data were collected : (i) to study the effect of different techniques of feedback - discussion, oral and written - and the effect of lessons - L_1, L_2, L_3 and L_4 upon the attainment of teaching skills; (ii) to study the difference in peer and self s rating; (iii) to study the differential effect of microteaching on the attitude of teacher trainees and the self evaluation of microteaching programme; and (iv) to study the transfer of general teaching competence from different training strategies to the actual classroom teaching.

5
56

6.3.0. RESULTS AND DISCUSSION

The main results of the study are summarised here. Details of the results related to skills and the component skills and other results have been discussed in chapter V. The data related to the skill of body movement (Skill I BMT) were subjected to ANOVA (3 X 2 X 2 - Feedback, lesson and observer. The hypotheses H_1, H_2 and H_3 related to the skill of body movement were tested. The F-ratio for the feedback treatment happens to be 23.45 for df 2/21. It is significant at 0.01 level. For testing the differences between means under different feedback treatments the t-test was employed. The mean scores of the discussion treatment group was significantly higher than the mean scores of oral and written treatment groups.

With respect to lessons, the F-value of 61.53 for df 3/63 is significant at 0.01 level. The trend of mean scores from lesson one to lesson four seems to be in increasing order.

The F-value due to observers' rating is significant at 0.01 level (F = 78.57 for df 1/21). The trend is in favour of self rating.

6
67

The data related to the skill of gestures (Skill II GT) were subjected to ANOVA (3 X 4 X 2 - Feedback, Lesson and Observer). The hypotheses H_4, H_5 and H_6 related to the skill of gestures were tested. The F-ratio for the feedback treatment happens to be .004 for df 2/21. This value is not significant.

With respect to lessons, the F-value of 8.81 for df 3/63 is significant at 0.01 level. The trend of mean scores from lesson one to lesson four seems to be in increasing order.

The F-value due to observers' rating is significant at 0.01 level (F = 4.03 for df 1/21). The trend is in favour of self rating.

The data related to the skill of shifting sensory channels (Skill III TRE) were subjected to ANOVA (3 X 4 - Feedback and Lesson). The hypotheses H_7 and H_8 related to the skill of shifting sensory channels (Skill III TRE) were tested. The F-ratio for the feedback treatment happens to be 17.92 for df 2/21. It is significant at 0.01 level. For testing the differences between means under different feedback treatments the t-test was employed. The mean scores of the written treatment group was significantly higher than the mean scores of oral and discussion

treatment groups.

With respect to lessons, the F-value of 2.41 for df 3/63 is not significantly different.

The data related to the skill of shifting sensory channels (Skill III TSE) were subjected to ANOVA (3 X 4 - Feedback and Lesson). The hypotheses H_9 and H_{10} related to the skill of shifting sensory channels (Skill III TSE) were tested. The F-ratio for the feedback treatment happens to be 31.23 for df 2/21. It is significant at 0.01 level. For testing the differences between means under different feedback treatments the t-test was employed. The mean scores of the written treatment group was significantly higher than the mean scores of oral and discussion groups.

With respect to lessons, the F-value of 6.95 for df 3/63 is significant at 0.01 level. The trend of mean scores from lesson one to lesson four seems to be in increasing order.

The data related to two covariates (Achievement - X_1 and Pretest - X_2) and criterian variable (Scores on Attitude Scale - Y_2) were subjected to ANCOVA. The hypothesis H_{11} related to the attitude of three experimental

6
69

groups towards microteaching programme was tested. The adjusted F-ratio of 0.40 for df 2/19 is not significant.

The data related to two covariates (Achievement - X_1 and Pretest - X_2) and criterian variable (scores on Self Evaluation - Y_3) were subjected to ANCOVA. The hypothesis H_{12} related to the self evaluation of three experimental groups towards microteaching programme was tested. The adjusted F-ratio of 1.97 for df 2/19 is not significant.

The data related to two covariates (Achievement - X_1 and Pretest - X_2) and criterian variable (Posttest - Y_1 on GTCOS) for four groups were subjected to ANCOVA. The hypothesis H_{13} related to the posttest scores of four groups (three experimental and one control) was tested. The adjusted F - ratio of 16.68 for df 3/26 is significant at 0.01 level. For testing the differences between means under different techniques of training, the t - test was employed. The mean scores of the experimental groups were significantly higher than the mean score of the control group.

6.4.0. CONCLUSIONS

Based upon the analysis of data given in Tables 4.1 to 4.18 in chapter IV, results have been discussed in chapter V. These results have been generalised from a 200 student teachers population belonging to College of Education of graduate course at Abohar, in Panjab, having almost the same environment as prevalent in other colleges of Education in the country. Conclusions drawn at different stages of the study are summarized as under :

1. Out of three techniques of feedback, discussion is the most effective technique of providing feedback by peer supervisors, for the attainment of the skill of body movement.

2. Out of the three techniques of feedback, written feedback is the most effective technique of providing feedback by peer supervisors for the acquisition of the skill of shifting sensory channels.

3. With regard to effectiveness, there is hierarchy among the three techniques of feedback. The descending order is discussion, written and oral.

4. For the skill of shifting sensory channels- total shifts in events, oral feedback is better than discussion feedback, discussion feedback is the least effective in this case only.

5. There is no differential effect of three techniques of feedback upon the attainment of the skill of gestures.

6. There is practice effect of microteaching lessons in the gradual improvement in performance of the skill of body movement practised under microteaching conditions.

7. There is practice effect of lessons on the gradual improvement in performance of the skill of gestures practised in microteaching simulation.

8. There is practice effect of lessons on the gradual improvement in performance of the skill of shifting sensory channels related to total shifts in events practised in microteaching simulation.

9. There is no practice effect of lessons on the gradual improvement in performance of the skill of shifting sensory channels related to total record in events practised in microteaching simulation.

10. The peer rating of his colleague's performance on the skill of body movement and gestures always differ from the self (microteacher); the peer rating always remains at a lower level than of the self.

11. The student teachers who had undergone microteaching training under simulated condition showed favourable attitudes towards microteaching programme.

12. The student teachers who had undergone microteaching training under simulated condition showed similar opinion towards the microteaching programme.

13. Microteaching in simulation is more effective a technique for transfer of general teaching competence to classroom teaching than the conventional practice teaching; micro teaching in simulation produces same effect irrespective of the difference due to different techniques of providing feedback.

On the basis of content analysis of the free responses (See Appendix O) of three experimental groups on the Free Response Evaluation Proforma, following conclusions can be drawn :

1. Microteaching is an effective and economical component skill approach of teacher training.

2. Stimulus variation is an important skill for the teacher to make his teaching more lively and interesting.

3. Nonverbal behaviour on the part of the teacher helps him to make certain ideas and concepts clear to the pupils, to motivate pupils, to get their attention and to bring variety in the lesson. But nonverbal behaviours is more effective when its meaning is interpreted alongwith verbal behaviour and in the context of culture.

4. Skills related to stimulus variation play specific roles : body movement is helpful for class control, getting pupils attention, encouraging pupils and for expressing ideas but too much movement distracts the class, gesturisation is helpful for making lesson interesting, making certain concepts clear but relevancy in gesturisation is essential; and shifting sensory channels creates good classroom climate, involves maximum number of students, helps to communicate ideas in variety of ways but the duration of shifts and variety among the channels may be properly maintained.

5. Feedback system in microteaching is very effective because it is pinpointed, immediate and brings strong and weak points to trainee's notice. Discussion feedback seems to be the best out of three techniques but peer supervisors need understanding of various issues of a skill.

6. Peer supervisory feedback is very effective if peers are properly oriented. They understand the practical difficulties of their colleagues in a better way than a college supervisor; college supervisors are needed at certain crucial points where expertise is needed.

7. Playing the role of a pupil is pedagogically sound provided it is played with all seriousness. Playing the role of a microteacher in simulation develops courage, confidence and is enjoyable. Playing the role of a peer supervisor helps to become more critical minded and responsible peer.

8. Model lesson by the college supervisor is essential at the initial stage for clarification and for standard of excellence of a skill. Model lesson by the peer supervisor provides an additional information because of variety in models presented before the trainees; discussion after model lessons provides extra information to teacher trainees.

5
74

9. Microteaching in simulation may or may not be better than the real. Yet it is a good setting for skill learning. Microteaching with real pupils should be followed by simulation.

10. Regarding practice periods, no one conclusion could be drawn due to mixed views.

11. Opinion of the student teachers towards microteaching in experimental groups is favourable except a few cases who felt it boring and tiring.

12. Some suggestions were also given to improve upon microteaching programme. These are : real pupils should be involved; more college supervisors should join the programme; time of practice should be extended; peer supervisors should be properly trained; some lessons should be arranged in macrosituation; and all the trainees should undergo microteaching programme.

6.5.0. IMPLICATIONS

The findings of the study have been produced an evidence in support of microteaching under simulation conditions : (i) it is feasible in Indian conditions in the absence of hardware gadgets; (ii) the three techniques of peer feedback - either discussion or written or oral are effective in producing significant behaviour changes ; and (iii) it is more effective training technique for the transfer of general teaching competence to classroom teaching than the conventional practice teaching.

The study was conducted under the conditions and environment generally available in a College of Education for graduate teachers in India. About 400 such colleges of education are functioning in the country according to the report issued by the department of Teacher Education of NCERT, Delhi in 1976. In addition to graduate courses, many of them are having postgraduate and doctoral courses as well. Student teaching is an integral part of graduate courses. Therefore, one of the major implications of the study is that microteaching under simulated conditions should be adopted as an integral part of student teaching programme. Teaching skills can effectively be introduced through microlessons in the normal set up of a teacher training institution. Peers can very effectively be associated in providing feedback to their colleagues thus relieving the staff of the college from many professional duties. This major implication will bring a new break through in student teaching programmes in a developing country like India which cannot afford CCTV except a few TTTIs. The other implications of the study are presented under suitable headings for convenience and better understanding.

1. Restructuring of Student Teaching Programme :

The present student teaching programme should be restructured and be made skill oriented. Student teaching

programme should have three broad phases - skill based theory stage, laboratory stage and school stage. At skill based theory stage, student teachers should undergo theory lectures which make a strong base for teaching skills. At the laboratory stage, student teachers should be exposed to teaching skills and their practice, confining to the four walls of College of Education only. At this very stage, they should be introduced with the allied innovations of student teaching namely, interaction analysis, use of different observation systems of classroom, sensitivity training, simulation and role playing alongwith microteaching. In short, they should be sufficiently oriented in the planning, perception and performance aspects of teaching through simulation and microteaching techniques. The restructuring of student teaching programme will protect student teachers at least from the following hazards and further put them into safe hands for the improvement of general teaching competence :

(a) Protecting novice teachers from discouraging climate of practising schools which hesitatingly accept student teachers.

(b) Novice teachers cannot justify teaching at the initial stages, let they may be allowed to have practice of component skills in microteaching under simulation.

(c) Helping student teachers from the encounters of the classroom and school with regard to time-table, indiscipline problems, anxiety and fear.

(d) Solving administrative problems of the school and College of Education.

At the school stage, student teachers should go to actual classroom for having practice of all the possible skills in an integration design, learnt at the laboratory stage.

2. Phasing of Laboratory Stage :

There can be many different patterns of laboratory stage to make it functional and effective. But the most logical, psychological and pedagogical phases can be - practising of skills alone with the help of big wall miccors; practising of skills in microteaching simulation with peers; practising of skills in macrosituation simulation with peers; and practising of skills in microteaching with real students. These phases will help gradually in developing general teaching competence among student teachers. Before entering the classroom, they will be sufficiently equipped with teaching skills and their practice in different situations.

3. Time Table of the Laboratory Stage :

Time table of laboratory stage can be designed in the following manner according to the building, staff, level of the programme and convenience of student teachers and staff. On the basis of the experience of the investigator, three types of time table can be prepared - microteaching simulation integrated with methods (teaching subjects) during regular time table of the College of Education; practising of skills in microteaching simulation either in the morning or in the evening without disturbing theory periods ; and practising of skills in microteaching simulation in a block of time daily for some period or some days can be fixed for this programme.

4. Components of Laboratory Stage :

In the light of the conclusions of the present study, implications related to the following components involved at laboratory stage, deserve attention :

(a) Teaching Skills - During laboratory stage, three points should be considered regarding skills of teaching, namely, selection of skills, sequencing of skills and integration of skills. For selection, those skills should be selected which are easy to practise, functional and need small groups for

5
79

practice. For sequencing, skills must have the logical, psychological and pedagogical base. For integration, these skills can be practised which belong to one area of teaching behaviours. Besides, teaching skills should be integrated and practised in macrosituation for the preparation for real classroom teaching where skills are used in unison.

(b) Techniques of Feedback - Discussion as a technique of peer feedback should be used in microteaching. Student teacher may be encouraged to participate in the discussion. Besides peer supervisor should be properly trained how and when to provide feedback to their colleagues. During discussion other techniques like written impressions may also be used as a base for discussion.

(c) Peer Supervisors - There are two sources of feedback - live source and mechanical devices. The latter, at present, is not possible which can be used in Indian conditions. The former can be manipulated in many ways. The pupils, peers, cooperating teachers and college supervisors can provide feedback in microteaching. As college supervisors cannot devote much time with student teachers and pupils and cooperating teachers are not easily available so peers should be involved in feedback process. Rather this will enable the college supervisors to save time which can be safely used for the improvement of other professional activities related to teacher education. But they require good orientation towards feedback process. All the student teachers may be involved to provide

feedback in rotation to their colleagues or post-graduate student teachers or experienced student teachers may be trained for providing feedback. This practice seems to be more functional in Indian conditions. Special sessions should be devoted as to how to provide feedback to their colleagues.

(d) Microlessons - Microlessons need special attention at the hands of the student teachers. These lessons should be instrumental to highlight or maximise the concerned skill of teaching. The pattern or format of microlesson should be properly conveyed to the student teachers. It may not be confused with the format of macrolesson plan. Here the purpose is the skill not the content but in the latter the purpose is the content alongwith proper skills.

(e) Role Playing - The practice of teaching skills in microteaching simulation depends upon the roles played by the microteacher, peer supervisor and peers as pupils. Student teachers should be well acquainted with different roles and their educational bearing upon skill development. Typical roles common to classroom, may be discussed and practised during laboratory stage.

(f) Evaluation of Skills - Every teaching skill needs to be defined into behavioural terms. In the light of these set of behaviours, evaluation proformas may be developed for each skill. Care may be taken that every skill is evaluated properly under the specified behaviours and inter-observer reliability is established. Evaluation may be based upon the recording of teaching moves (events) or time sequence may be maintained.

5. Remedial Microteaching :

All the student teachers start their teaching from different base line of general teaching competence. Some can gain competency in some of the skills, after delivering some lessons in the classroom whereas others cannot gain the expected level of competency inspite of regular teaching. For the latter, practising of those teaching skills in which they had failed to develop competency, microteaching in simulated conditions can prove to be an effective training technique. Therefore, diagnostic and remedial measures should be adopted in Colleges of Education with microteaching as an integrated programme of student teaching.

6. Development of Materials :

Suitable handbooks should be developed on the lines of those prepared by Borg and others (1968) at the Far West Laboratory in the U.S.A.; by Perrott (1975) at the International Microteaching Unit at Lancaster, U.K. and by Passi (1975), Lalithama (1975) and Joshi (1975) at the Centre of Advanced Study in Education, at Baroda, India. These materials should be developed on a large scale and may be made available to the student teachers as the first exposure to skills in teaching. This should be undertaken as a cooperative project by the training institutions of the State, universities and other national organisations. Alongwith the handbooks, the

training institutions should develop models - either symbolic or audio or films - depicting the use of different skills in the context of Indian classrooms. In this connection, it is strongly recommended that the Film and Television Institute of India should develop perceptual models specially for the skills related to nonverbal communication in the classroom. The NCERT should develop a central library of such films or materials for the use of teacher training institutions.

7. Training and Extension Programmes :

Training and extension programmes should go hand in hand for speedy implementation of new ideas in the field of microteaching.

(a) Training of Principals and Teacher Educators - It is the experience that innovative programme cannot be effectively implemented and carried out successfully unless the entire teaching staff is involved. Principals of training institutions may be properly oriented to this technique of teacher training by the central agencies like NCERT and State Institutes of Education. Their orientation should be related to administrative aspect and feasibility in different settings and situations. Secondly, teacher educators need intensive orientation in microteaching. Entire staff may be given orientation to the various approaches of student teaching, the technical skills and the organisation

3

of microlessons. The staff should also be oriented in the new techniques of classroom interaction analysis, simulation, role playing and feedback.

(b) Extension - Microteaching programme may be introduced in inservice programmes of training of teachers. New ideas in this field may be propagated to teachers who are already working in the field. Microteaching Clinics may be started at different places where a group of educational institutions are working in a complex. This will provide the facility to all categories of teachers to improve upon those skills in which they are not possessing sufficient teaching competence. Such micro clinics may, at present, be started without videotape which is costly. Other soft materials, if possible, tape records can easily be used in the clinics.

6.6.0. SUGGESTIONS FOR FURTHER RESEARCH

Though microteaching has completed a decade of its standing and has developed into many ways as a training technique in College of Education, Yet many aspects are still unexplored. In view of the present study, the following fields for further research are suggested.

1. Identification of Skills :

More studies are needed to identify the teaching skills expected of a teacher in the classroom. Though efforts have been made in this direction by Lalithama (1975)

in India yet it needs validation.

2. Sequence of Skills :

Sequence of component skills can also be tried out which may bring different outcomes for effective teaching thus, leading to different patterns or styles of teaching.

3. Minimum number of component skills in Indian classroom, irrespective of class size, subject matter, duration of period, for normal teaching, may be investigated. This will aim at evolving the basic professional skills expected of every teacher. Identifying of specific skills suitable to a particular discipline is still a field unexplored.

4. Categorisation and Hierarchy of Skills :

Categorisation and hierarchy of the teaching skills may be investigated. Turney et al. (1976) have done good work but this process may require exploration from different strategies in teaching.

5. More studies can be undertaken to see the effect of one of the following variables in microteaching :

(a) Changing the number of students (five to ten students)

(b) Changing the duration of the lesson (five to fifteen minutes).

(c) Modelling - symbolic / perceptual / audio

(d) Setting - simulation / real

(e) Feedback - pupil / peer / college supervisor (with different techniques)

(f) Comparison of verbal and Nonverbal skills in terms of general teaching competence.

Some of the large studies have been completed by NCERT and CASE. Some of the studies have been planned with the help of some associate colleges in the country.

6. Comparative studies can be undertaken on the following variables :

(a) Boys Vs Girls

(b) Arts graduates Vs Science graduates

(c) Skills Vs School subjects

(d) Skills Vs Grade or Class

7. There is need to study the transfer of general teaching competence from microteaching to real classroom teaching. Its periodical study can be done - immediately after training, after six months, after one year and after two years. Some studies are being planned at CASE and at Abohar.

8. Another interesting field for study, is prefixing and suffixing of microteaching to conventional teaching practice; whether prefixing is more effective or suffixing is more effective for generating general teaching competence among student teachers.

9. Large scale field studies may be taken up where surveys of microteaching work can be conducted. Those institutions in the country may be taken up for the survey where microteaching has been implemented for the last three years. Such studies would give new trends in microteaching under Indian settings.

10. Studies in cost effectiveness of microteaching can also be taken up wherever microteaching has been introduced as a training technique. Cost effectiveness may be studied in the context of time, money and pedagogical outcomes.

11. Last but not the least, some studies should be taken up where the effect of microteaching as a training technique may be measured in terms of pupils achievement and pupil gains in terms of other criterion variables.