C H A P T E R SIX

SUMMARY, CONCLUSION AND IMPLICATIONS

6.1 Introduction

The teaching practice programme usually organized for student-teachers in most of teacher education colleges and departments seems vague and does not give to student-teachers a precise idea of what is expected to be achieved by teaching practice. The teacher educators on their part are more eager to assess the overall effectiveness of a student-teacher than help him in developing into an effective teacher. Approach is rather global. It is recognized that each bit of the teacher behaviour in the classroom has considerable influence on the pupils' minds. It is the teacher who is active in the classroom most of the time. The practice teaching programmes of the teacher training colleges have so far laid emphasis on the content and methodological aspects of teaching. Effectiveness of teaching is to be judged to the extent it has caused learning in child. The communication process of the teacher in the classroom has been found to be mainly responsible for the proper educational growth of the child although he is also expected to direct the pupils in activities outside the classroom in order to enable them to make the necessary

changes in their way of thinking and acting. Whatever may be the effort to change the school practices, ultimately it comes down to teachers' classroom behaviour, his teaching and the teacher-student interaction. The verbal interaction between the teacher and the student creates a climate of freedom or restriction for the pupils in the classroom. Not much attention has been paid to studying and analyzing teacher's verbal behaviour. Since the teacher exerts a great deal of influence on the pupils, teacher's behaviours as an important variable in the dynamic of the classroom should attract the attention of teacher education colleges.

A number of techniques are being used currently in India as well as in other countries for the modification of human behaviour. Some of these techniques include T Group technique, role play, programmed learning, achievement motivation training, interaction analysis, and micro-teaching etc. These techniques have become the educational innovations in training of teachers both at pre-service and in-service level and have shown promising results in other countries. Therefore, with a view to exploring the possibility, usability and to see the efficacy of the two techniques namely micro-teaching and interaction analysis (FIACS) in our teacher training programme practised at secondary teacher training institutions, the present study was planned. The following were the objectives of this

study.

6.1.1 Objectives

1. To collect classroom verbal behavioural data to show whether or not there is significant difference between student-teachers given the treatment of micro-teaching and control group student-teachers using traditional method only.

2. To know whether the treatment of Flanders Interaction Analysis produces significant difference in verbal classroom behaviour of student-teachers compared to control group student-teachers.

3. To know whether two treatments, namely micro-teaching and FIACS could be synchronized in teacher training programme.

4. To consider the usability of micro-teaching and Flanders Interaction Analysis Category System in teacher training programme to modify the student-teacher classroom verbal behaviour.

In order to fulfil the objectives, the following null hypotheses were framed:-

1. Student-teachers trained through micro-teaching do not change their verbal teaching behaviour in the classroom significantly

compared to the student-teachers trained in traditional way only.

2. Student-teachers trained in Flanders Interaction Analysis Category System do not change their verbal teaching behaviour in the classroom significantly compared to the student-teachers trained in traditional way only.

3. Student-teachers trained through micro-teaching do not change their verbal teaching behaviour in the classroom significantly compared to the student-teachers trained in Flanders Interaction Analysis Category System.

It may be noted that teacher behaviour or teaching behaviour in classroom is defined as teacher verbal behaviour in the classroom on the variables of teacher talk, student talk, silence or confusion, teacher-student talk ratio, flexibility of communication, measures of indirect and difect influence, acceptance of the ideas and feelings of the pupils, their initiative and use of authority restricting the freedom of pupils. In this study Flanders Interaction Analysis Category System (FIACS) has been used as a teacher training tool as well as observation tool. The three independent variables used for modifying the student-teachers behaviours are micro-teaching, FIACS and traditional teacher training methods. The criterion variable is the

measure of verbal teacher behaviour in the classroom.

6.1.2 Design

The study was designed having two stages: (i) pilot study and (ii) final experiment. The pilot study aimed at seeing the efficacy of the FIACS treatment compared to traditional method of training as well as visualizing the administrative difficulties in the process of treatment being given to student-teachers and their assessment. A simple design having one experimental (N=10) and one control group (N = 10) was executed. The experimental and control groups were matched on variables of age, sex, marital status, area (rural or urban), marks at graduate level, teaching subjects and teaching experience. The experimental group was given the treatment of introducing them with FIACS in theory only. Classroom verbal behaviours of the student-teachers of both experimental and control groups were observed twice for 30 minutes each for each student-teacher. The final data of the experimental and control groups were compared. The experiment was done in class VIII of the same school in teaching of social studies. The results showed that some of the components of classroom verbal behaviour, namely, flexibility in classroom communication, use of indirect influence, pupil ideas and their self-initiation were significantly different from group to group. This indicated that the theoretical

introduction of Flanders Interaction Analysis Category System has a significant effect. Nevertheless to be more sure, the final experiment was conducted by introducing one more variable of micro-teaching.

For the final experiment a simple experimental pre-test, post-test design with two experimental groups and one control group was executed. The experiment included 10 student-teachers in control group and the other 10 in two experimental groups, namely, experimental micro-teaching group I (N = 5) and experimental FIACS group II (N = 5). The groups were matched keeping in view the variables of age, sex, marital status, area (rural and urban), socio-economic status, marks at graduate level, subjects at graduate level, teaching subjects and teaching experience. The groups were also matched on pre-treatment observation of classroom verbal behaviour. The two treatments given to the experimental groups were the micro-teaching in simulation condition as well as in real situation to group I and theoretical explanation and practical training of Flanders Interaction Analysis to group II. After treating the experimental group I by micro-teaching in simulation condition as well as in real class situation, and group II the treatment of FIACS in addition to traditional training given to both the groups and control group in traditional training only, all the twenty student-teachers were observed by FIACS for forty minutes in two separate periods for

twenty minutes in each for each student-teacher. The experiment was conducted in class VIII of the same school in social studies teaching class through the medium of Hindi.

6.1.3 Sample

Two sets of samples were used one for the pilot study and the other for the final experiment. A sample of 20 student-teachers was drawn out of 160 student-teachers admitted for B.Ed. training in the year 1970-71 in Tilakdhari College, Jaunpur, affiliated to the University of Gorakhpur, U.P. The sample of twenty student-teachers for the final experimentwas selected out of One hundred Fifty-seven student-teachers admitted in the same college in the year 1971-'72 for B.Ed. training. The experimental class, in both experiments was class VIII. Students numbered ninety and one hundred five in the year 1970-71 and 1971-72 respectively at Tilakdhari Singh Inter College, Jaunpur, were used.

6.1.4 Tools and Treatments

For gathering information relating to the matching variables an 'Information proforma' was prepared and administered to the student-teachers under training (see Appendix). For training the student-teachers, the traditional method as practised today, micro-teaching and Flanders Interaction Analysis Category System were used. In traditional method of training eliciting the responses

from the students is emphasized. Through micro-teaching procedure the training in indirect behaviour and reinforcing student participation were taken up. FIACS treatment aimed at practising 'Indirect' behaviour patterns. Due to lack of resources C.C. T.V., or Videotape or any other type of electric gadget was not used. Teacher behaviour was measured by observing and analysing the classroom verbal interaction of student-teachers and pupils using Flanders Interaction Analysis Category System.

6.1.5 Measures for Analysis

Inter-observer reliability was computed on Scott's Reliability Coefficient. Comparison of matrices for statistical significance was calculated by putting them to test by a likelihood ratio criterion developed by Darwin. The matrix indices aiding interpretations were computed on the basis of computational details given by Flanders. 't' test was used for finding out the significant differences from group to group on different variables.

6.1.6 Findings

1. First null hypothesis was rejected at .01 level of confidence. This means that student-teachers trained through micro-teaching changed their verbal teaching behaviour in the classroom significantly compared to the student-teachers trained in traditional way only.

2. Second null hypothesis was also rejected at .01 level of confidence. This leads to the conclusion that student-teachers trained in Flanders Interaction Analysis Category System changed their verbal teaching behaviour in the classroom significantly compared to the student-teachers trained in traditional way only.

3. The third hypothesis was rejected at .01 level of confidence to conclude that student-teachers trained through micro-teaching changed their verbal behaviour in classroom significantly compared to the student-teachers in Flanders Interaction Analysis Category System.

6.2 Conclusion and Implications

By and large, the study has helped to seek the answers of the questions raised and put them as objectives of the study. The answers have the educational implications for the teacher training colleges in particular and education in general. It may be useful for the teacher training colleges in India to give special attention to this. In light of the objectives the conclusions with their educational implications are given.

1. On the basis of the data regarding classroom verbal behaviour of student-teachers there is enough evidence to infer that the student-teachers given the treatment of micro-teaching showed significantly different

classroom verbal behaviour compared to student-teachers of control group. Data also suggest the direction in the change of student-teachers behaviour. Significant differences on the variables of silence or confusion, flexibility of communication, measures of indirect and direct influences, pupil initiative and use of his idea or feeling whether increased or decreased are indicative of modification of behaviour in positive direction. The noteworthy significant features of the modification in the verbal behaviour of the student-teachers trained through micro-teaching are on the variables of steady state ratio, 3-3 cell and 9-9 cell. They indicated flexibility in interchange of communication, more use of student initiated ideas, their clarification and pupil initiation which may be considered essential in order to reach those levels of cognitive functioning that require independent thinking and self-direction.

For a pre-service teacher training programme inclusion of micro-teaching as an organized activity needs consideration. Micro-teaching is based on the assumption that there are certain patterns of behaviour, rather strategies which are crucial to effective classroom instruction. By concentrating on these strategies in a programme of teacher education, it should be possible to improve teaching by practising certain phases of teaching, one phase at a time. A single teach-reteach cycle can be accomplished in less than thirty minutes. It is the

reteach opportunity to which micro-teaching owes its success. For practice through micro-teaching with reteaching the following objectives: (i) providing reinforcement for the pupils, (ii) ways that the teacher can vary the stimulus, give emphasis, and maintain attending behaviour, (iii) set induction, which refers to the ways with which the teacher can create interest in pupils for a unit of study, (iv) lecturing and use of audio-visual materials with attention to variation, pacing, and appropriateness, (v) illustrating and using examples, which refers to moving from simple to complex ideas, (vi) skills of summarizing and to emphasize the more important learnings, (vii) teacher initiated questions, and (viii) student initiated questions may be included. These are some of the aspects of classroom interaction which seem crucial to effective teaching. Since micro-teaching is a scaled down version of teaching in which the number of pupils, time, and learning objectives are all curtailed, the concern of total class management should not interfere. With the teach-reteach possibilities, teachers are oriented towards component skills of teaching and they may manage a bigger class with more confidence because they proceed after analysing one performance and then try to improve.

2. In answer to the question whether treatment of Flanders Interaction Analysis Category System could show significant difference in the modification of classroom

verbal behaviour of student-teachers compared to the verbal behaviour of control group student-teachers, it may be said that there is evidence to conclude that FIACS training did help the student-teachers to change their verbal behaviour in the class. As a result of training they changed significantly in the direction of using more and more acts of praising and encouraging the students for more participation, and accepting and building up the ideas of the students. There was also a tendency on the part of student-teachers, who underwant training to use less lecturing, directing and criticising. As a result of training the indirect/direct influence ratios of experimental teachers increased showing more of indirect influence.

It may be useful for the teacher training institutions in India to pay special attention to this. Experimentation may be taken up in a few colleges by way of teaching interaction analysis as well as by using it in practice teaching programme which may bring more awareness among the student-teachers about their classroom behaviour. However, any such training in interaction analysis should not be prescriptive to Flanders' system, it should be left to the teacher educators to experiment with new patterns, see the results and then follow the useful patterns. Flanders Interaction Analysis like any other technique is an assessment technique which requires some practice, a little guidance and some time to think about and see what

is being done. It is an objective tool which involves the observer in detailed analysis to identify the kinds of interaction that takes place in the classroom. This quantitative study makes it possible to describe objectively the pattern of lesson. This technique of quantifying the qualitative aspects of verbal communication may be used as a training technique. Student-teachers trained in interaction analysis may apply it to their own lesson after it has been duly observed by the supervisor or some other colleague or may act as an observer when invited to do so by another colleague. The conferences and discussions that result can provide the participants with new insights into their own or their colleague's behaviour. Apparently teachers have a great interest in, and need for objective information about their own patterns of influence, about how these patterns match their intention, and whether the differences they expected from different patterns did or did not occur. There is a possibility that interaction analysis can contribute to teacher education.

3. Synchronizing micro-teaching with interaction analysis in teacher training programme is possible rather in a way essential when the electronic gadgets are not being used to record the lessons for review afterwards. If the categories and their interpretation could highlight features of teaching that were being practised, then there would be several advantages. In the present study, FIACS

was used as an observation and behaviour interpretation tool combined with micro-teaching. Here the purpose was not to give both the treatments to same group of student-teachers. Therefore, it was not given as treatment. There may be some other tools to provide feedback to student-teachers but this quantification of the verbal behaviour may help the student-teacher to analyze his own teaching behaviour and to get objective feedback himself out of its interpretation. Combining micro-teaching with interaction might help to make micro-teaching a more potent training experience than would be true without interaction analysis in our present Indian condition where costly electronic gadgets as C.C. T.V. or Videotape are not likely to be used.

Therefore, the programme which combines systems of coding verbal communication with micro-teaching have special implication in Indian condition. The major advantages reported by those who conducted such combined programme were the greater specification of the skill to be practised and more objective information about the performance itself. In the classroom for longer period of teaching, Video playback becomes time consuming and therefore inefficient. Interaction analysis feedback is reported to be faster which could focus on specific skills providing the behaviour patterns. It is quite possible that interaction analysis combined with micro-teaching would provide a potent training technique in developing and controlling teaching behaviour.

4. Obviously, the question of usability of micro-teaching and Flanders Interaction Analysis Category System follows the conclusions that the use of micro-teaching and FIACS have shown more promising results in the modification of student-teacher verbal behaviour in the classroom. But the fact that traditional practice teaching had an impact on modification of teacher behaviour is also significant. Although the bountiful good results are evidenced by innovatory techniques of micro-teaching and FIACS in the modification of student-teachers' verbal behaviour they may not be prescribed as universal panaceas. But on the basis of the results of the experiment described in this work, of course first attempt in Indian conditions, it is an invitation to all those who are concerned with the modification of student-teacher verbal behaviour in the classroom for effective teaching to make an impartial re-appraisal, noting the inefficiency of existing methods of conducting practice teaching programme and the promise of alternative approaches. Such evidences are not readily available through this piece of research as to which technique of producing teacher is superior to any other. It would be a better part of wisdom to provide explicit programmes with carefully designed training materials rather than rely upon haphazard training and accidental modification of teacher verbal behaviour.

The application of the use of these techniques in

teacher training programme at present juncture will depend more on the consideration of existing situation in a particular training institute, its personal resources, initiative, keenness and the level of urgency with which the staff of a training college views the challenge. A college may start only with imparting a theoretical knowledge of Flanders Interaction Analysis Category System proceed further in training student-teachers in observation, preparation of matrix and its patterns, supervisor's training in the system for objective observation of student-teacher performance in the classroom. On the other hand micro-teaching offers the advantage of both the controlled laboratory environment and the reality of bonafide teaching. If the paucity of practising school or the situation in the school does not permit, the whole micro-teaching programme may be arranged in simulation condition which means the opportunities to practise skills in the group of student-teachers themselves. The student can benefit from experiences he might not receive if dependent upon fortuitous events in the practising schools. If the school permits, the whole programme may be designed in such a way that maximum utilization of the resources, time and personnel may be made. Obviously, the general idea is subject to variation from situation to situation. The size of the class may be manipulated. The number of trainees teaching a given group of children can be increased. Duration of the lesson can be lengthened, and

the nature of the teaching task can be made more complex, so as to embrace a group of technical skills. But the ideas of analysing teaching into technical skills, practising them with the benefit of objective feedback and the reteach cycle are the heart of the technique. It may provide opportunity for a close supervision, practising manageable objectives established according to individual training needs and progress, continuous diagnostic feedback, self-evaluation, and immediate guidance in the area of demonstrated deficiency with a probability to repeat a lesson conveniently as often as desirable.

6.3 Theory of Instruction

Can the present study contribute to a theory of instruction? An attempt to answer this question will not be out of place. Educators seem not yet ready to start the ambitious task of developing a theory of instruction that takes into account all verbal behaviours that occur in a classroom. It may be postulated that a theory of instruction must at least concern itself with the teacher's acts of influence and the reaction of students, using the goals of learning as a reference for interpretation. There must be concepts that describe teacher influence, concepts that describe students reactions, and those that describe learning goals. But for the analysis of behaviour the order should be reverse, e.g. to start with the learning goals,

students' perceptions of these goals are developed through classroom interaction. The report of the work which preceded also involved interaction. But the analysis of student and teacher interaction could not be carried out in terms of the learning goals. It would have made more sense if the classroom behaviour would have been viewed within this frame of reference. The paucity of this frame of reference in Indian condition particularly came in the way to propose dynamic cause and effect relationships among learning goals, and teacher and student verbal interaction in the classroom. This puts case for need of future researches in teacher education.

6.4 Suggestions for Future Research

The increasing attention given of late to research in the area of classroom interaction unmistakably points to the growing awareness on the part of the researchers to the need for evolving a sound theory of instruction which can be useful in solving the problem of the qualitative improvement in India. Studies with longer samples may be undertaken for further evidence of these findings, as also to probe the possible other correlates of teacher classroom behaviour. Such studies, in the ultimate analysis, should help in developing suitable strategies for modifying teacher classroom behaviour.

Ideally, research on the validation of teacher

behaviour should precede the dissemination of these behaviours in teacher education programme. But educational practice has been to innovate and to justify the innovations. Programmes that include innovations based on the opinions of educational experts have received much more attention than have programmes of research on teacher behaviours.

It is unlikely that sufficient research will take place before performance criteria are implemented in pre-service or in-service teacher education programmes. Therefore, it may be suggested that the researches on the validity of the performance criteria be conducted. The most important studies to be undertaken are experimental studies. The studies to determine whether the trained teachers exhibit greater cognitive or affective growth in their students compared to controls or to determine whether teachers trained for specific performance criteria behave differently in their classroom from similar other teachers who do not receive the training or similar other studies may provide with stronger information on the importance of various performance criteria.

It is also advisable to conduct correlational studies concurrently with the experimental studies. Separate correlational studies, using some of the variables of teacher behaviour and coding procedures may be conducted for the trained and untrained samples. The suggestions

from the results of the correlational studies could be applied in the further analysis of the results of experimental studies. Those involved in the training of teachers need, and should encourage and receive, much more help from educational researchers.