CHAPTER-VIII

SUMMARY, CONCLUSIONS AND TOPICS
FOR FURTHER RESEARCH
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8.1 INTRODUCTION:

The future of any nation depends upon the quality of schools, which ultimately depends upon the quality of teaching force.

Nearly for the last three hundred years the task of preparing the teaching force has been the responsibility of teacher training institutions. The teacher education has a long history but of low status.

The first 'Normal School' established by De La Salle (1685) at Rheim is considered as the origin of the modern teacher training institutions. In the beginning, the curriculum of teacher training programme consisted of two components, viz. (1) general education and (2) teaching practice. In 19th century philosophical, psychological and pedagogical basis was added. The main components thus emerged were: a) general education, b) specific subject mastery, c) psychology and pedagogy and d) applied education. (De Landsheere, 1987)

The general education constitutes the set of knowledge, skills and affective and psychomotor behaviour learned for harmonious development of an individual.

The high quality of teaching of the school subjects requires advanced knowledge of the subject content. Hence, the trainees have to attain mastery over the content of specific school subject.

The psychological and pedagogical course is interdisciplinary in nature, which consists of philosophical, sociological, psychological, sociocultural and pedagogical knowledge base.

Applied education is a set of studies and actions developed for instructions and independent learning.
The general education as well as pedagogy and applied education are integrated together in the four-years integrated courses; whereas, in one year pattern, it is assumed that the general education and specific subject mastery is the responsibility of the academic colleges, and the remaining two components viz. pedagogy and applied education form the core of curriculum of teacher-training programme.

Surprisingly even today, these components and structure of teacher-education programme did not much differ from the early normal schools. Even, the practice-teaching which is core element of teacher training programme has also remained unchanged.

The practice teaching can be organized in a variety of ways, such as stray lessons, block teaching and internship programme.

These field experiences do not correspond to the continuum of training suggested by Gregory, T.B. (1972) which is followed in the sophisticated training programmes in the other professions such as: Army training, Pilot training, etc. There is a missing gap of laboratory experiences in teacher-training programme.

The gap was identified in 1960, and several laboratory experiences were intended such as: simulation and gaming, reflective teaching, interaction analysis, microteaching etc. However, amongst these microteaching is considered as the most influential and widely used laboratory experience.

The major premise underlying the technique of microteaching is that the teaching behaviour is complex and it can be analyzed into simple, limited and well defined components - 'teaching skills'. The concept of teaching skill is new in teacher-training programme.
As a number of teaching skills is ever increasing, it necessitated the classification of skills. Efforts to classify the teaching skills have been done by many (AITE, 1972; Flanders, 1969; Turney, et.al (1972); Lalitha, 1975; Menon, M.B., et. al. (1984). However, all the formats of classification are horizontal and not vertical. Some of the skills classified by them totally fall out of purview of a teaching skill.

A relevant, three dimensional classification of teaching skills was proposed by A Joshi, A.N. (1986). The three dimensions are: (i) openness of teaching skill, (ii) non-verbality of teaching skill and (iii) nature of moves in teaching.

Openness of a skill depends upon the degree to which the performer has to respond to the spatial and temporal demands that occur in the environment. In open skill the behaviour of a teacher is determined more by the environment than the teacher himself.

Non-verbality of skills depends upon the proportion of non-verbal components of the skill.

Four moves occur in classroom interaction. These moves are (a) structuring, b) solicitation, c) Responding and (d) Reacting. (Bellack, et. al., 1966).

It seems to be the most systematic attempt of taxanomising teaching skill and it is first of its kind. However, many ideas related to taxanomy need further validation. The concept of teaching skill and impetus given to the development of large number of teaching skills is one of the most significant contribution of microteaching to teacher education programme. It has also highlighted the importance of flexibility.
in training procedure, accuracy of feedback and use of modelling in training.


However, efforts of searching the conceptual basis of microteaching has started after 1970.

The psychological basis of microteaching has been studied very recently, while developing a complete programme of microteaching based on social skills (Brown, G.A., 1975).

There are three constituents of training, a) planning, b) performance, and c) perception; according to Brown's model. It postulates a cognitive stage between perception and performance. But this relationship is not so simple. It is complex one and there are many intermediary cognitive processes between perception and performance. (Bandura, 1977; Trower, 1979, p.8).

Hence, apart from perception, planning and performance we need to have many more steps and sub-steps catering to cognitive demands.

In this context, Joyce, B. and Weil, M. (1978) suggested four components of training; viz. 1) Presentation of Theory, 2) Demonstration, 3) Planning and peer-teaching with feedback, and 4) Adapting the teaching behaviour to real situation.

However, there are many more issues pertinent to this area. These are listed below:

1) Which component out of theory, demonstration, planning and performance; is comparatively more effective in improving teaching performance.
2) What could be the effect of mastery over these components upon the acquisition of teaching behaviour? This question becomes more crucial in the light of the programmes based on mastery learning such as CBTE or PBTE.

3) Which training sequence is more effective in training of a teaching skill or behaviour?

4) If we assume that different teaching skills have different nature, then would there be interaction between the nature of teaching skill and training strategy adopted? In other words what strategy would be more effective for what type of skill?

In the context of the above issues the researcher had selected the following problem:

8.2 STATEMENT OF THE PROBLEM:

"Effect of Mastery over the Theory and Planning Skills on Performance of some teaching skills of the teacher-trainees."

8.3 OBJECTIVES OF THE STUDY:

The main purpose of the study is to determine the effect of mastery over theory and planning of skill Reacting and skill Narration on general teaching performance and skill performance. The specific objectives of the study were as follows:

O.1 To develop the self-instructional material of the selected skills - Reacting and Narration.

O.2 To decide the level of mastery over theory of skill and planning in skill.

O.3 To develop the criteria for testing the teacher-trainees in evaluating the plans.
0.4 The develop mastery over theory and planning in skill Reacting and skill Narration.

0.5 To develop training strategies for mastery over theory and planning skill related to Reacting and Narration skills.

0.6 To determine the effect of training for, a) mastery over theory of skill Reacting, b) mastery over Planning in skill Reacting and c) microteaching in skill Reacting; on general teaching performance and skill performance.

0.7 To determine the effect of training for, a) mastery over theory of skill Reacting followed by microteaching, b) mastery over planning in skill Reacting followed by microteaching and c) two standard microteaching cycles in skill Reacting; on general teaching performance and skill performance and on retention of skill Reacting.

0.8 To determine the effect of a standard microteaching cycle preceded by a) mastery over theory of skill Reacting, b) mastery over planning in skill Reacting and c) microteaching in skill Reacting; on general teaching performance and on skill performance.

0.9 To determine the effect of training for, a) mastery over theory of skill Narration, b) mastery over planning in skill Narration, and c) microteaching in skill Narration; on general teaching performance and skill performance.

0.10 To determine the effect of training for a) mastery over theory of skill Narration followed by microteaching, b) mastery over planning in skill Narration followed by microteaching and c) two microteaching cycles in skill Narration; on general teaching performance and skill performance.
To determine the effect of a standard- microteaching cycle preceded by a) mastery over theory of skill Narration, b) mastery over planning in skill Narration, and c) microteaching in skill Narration; on general teaching performance and skill performance.

To determine the retention of skill Reacting after the training in skill Narration.

To determine the interaction effect between the training strategies and the nature of skill, on general teaching performance and on total acquisition of skills.

To find out the determinants of performance, planning and theory of skill Reacting and skill Narration.

**Hypotheses:**

Following directional and research hypotheses were stated in the view of above objectives.

H.1 : Training for mastery develops 80/80 mastery over theory of skill Reacting.

H.2 : Training for mastery develops 80/80 mastery over planning in skill Reacting.

H.3 : Training for - a) mastery over theory of skill Reacting, b) microteaching in skill Reacting do not improve the general teaching performance and skill performance of the student-teachers.

H.4 : Training for - a) mastery over theory of skill Reacting followed by microteaching, b) mastery over planning in skill Reacting followed by microteaching and c) two
H.5: A standard microteaching cycle preceded by -
   a) mastery over theory of skill Reacting,
   b) mastery over planning in skill Reacting, and
   c) microteaching in skill Reacting
do not improve the general teaching performance and skill performance of the student-teachers.

H.6: There is no retention of skill Reacting after the training for
   a) mastery over theory of both the skills followed by microteaching, b) mastery over planning in both the skills followed by microteaching and c) two microteaching cycles in each skill.

H.7: Training for a) mastery over theory of skill Reacting,
   b) mastery over planning in skill Reacting, and
   c) microteaching, do not differ significantly in improving the general teaching performance, and skill performance of the student-teachers.

H.8: Training for a) mastery over theory of skill Reacting followed by microteaching, b) mastery over planning in skill Reacting followed by microteaching, and c) two microteaching cycles, do not differ significantly in improving the general teaching performance and skill performance of the student-teachers.

H.9: A standard microteaching cycle preceded by a) mastery over theory of skill Reacting, b) mastery over planning in skill Reacting, c) microteaching in skill Reacting, do not differ significantly in improving the general teaching performance and skill performance of the student-teachers.
H.10: Training for a) mastery over theory of skill Reacting followed by microteaching, (b) mastery over planning in skill Reacting followed by microteaching, and c) two microteaching cycles, do not differ significantly in retaining the skill Reacting.

H.11: Training for mastery develops 80/80 mastery over the theory of skill Narration in the student-teachers.

H.12: Training for mastery develops 80/80 mastery over planning in skill Narration in the student-teachers.

H.13: Training for, a) mastery over theory of skill Narration, b) mastery over planning in skill Narration and c) microteaching in skill Narration; do not improve the general teaching performance and skill performance of the student-teachers.

H.14: Training for a mastery over theory of skill Narration followed by microteaching, b) mastery over planning in skill Narration followed by microteaching, and c) two microteaching cycles in skill Narration, do not improve the general teaching performance and the skill performance of the student-teachers.

H.15: A standard microteaching cycle preceded by a) mastery over theory of skill Narration, b) mastery over planning in skill Narration and c) microteaching in skill Narration do not improve the general teaching performance and skill performance.

H.16: Training for a) mastery over theory of skill Narration, b) mastery over planning in skill Narration, and c) microteaching in skill Narration do not differ significantly in improving the general teaching performance and skill performance.
H.17: Training for, a) mastery over theory of skill Narration, followed by microteaching, b) mastery over planning in skill Narration followed by microteaching, and c) two microteaching cycles in skill Narration; do not differ significantly in improving the general teaching performance and skill performance.

H.18: A standard microteaching cycle preceded by a) mastery over theory of skill Narration, b) mastery over planning in skill Narration and c) microteaching do not differ significantly in improving general teaching performance and skill performance.

H.19: There is no interaction effect of training strategies and openness/closeness of the skills, on general teaching performance and total acquisition of skill.

H.20: There is no relation of performance in skill Reacting and Narration with planning, theory, general mental ability.

8.5 PROCEDURE AND DESIGN OF RESEARCH:

The study was completed in two phases - 1) Preparatory phase and 2) Experimental phase.

8.5.1 Preparatory Phase:

It aimed at development of material, preparation and collection of tests and orientation of colleagues. The following activities were involved in this phase:
1) Development of self-instructional material, on skills - Reacting and Narration.

2) Try out and pilot study.

3) Development of training programme for mastery learning.

4) Preparation of theory check-up test and evaluation criteria of plans.

5) Collection of general intelligence test, planning ability tests, teaching attitude test and general teaching performance scale.

6) Orientation of colleagues about the work that would be launched to them.

7) Preparation of task-sheets of the researcher, colleagues and the subjects.

After the full preparation, the experiment was launched as described below:

8.5.2 Experimental Phase:

Pre-test Post-test control group design was selected for the experiment. The training strategies i.e. independent variables used in the experiment were as below:

i) Standard Microteaching

ii) Mastery over theory of the selected skills.

iii) Mastery over planning in the selected skills.

iv) Mastery over theory followed by microteaching.

v) Mastery over planning followed by microteaching.
g.6 SAMPLING:

A sample of thirty-six student-teachers from seventy eight, was selected randomly from second year batch of four year integrated course. This sample was again divided randomly into three sub-groups, each consisting twelve student-teachers. Each sub-group was assigned a training strategy through randomization. The tools and the procedure of the study is discussed below:

g.7 TOOLS:

The following tools were used in the present study.

1) Theory Check-up Tests:

The tests were developed by the researcher for checking the level of acquisition of theory of skill Reacting and skill Narration.

2) Plan Evaluation Criteria:

The self-evaluation criteria were developed by the researcher for evaluating the plans of microlessons of skill Reacting and skill Narration.

3) Process-process Appraising Scale of Teacher Effectiveness (PASTE):

PASTE was developed by Bhalwankar, A.G. and Joshi, A.N. (1981) which is tried out and standardized. It consists of fourteen main components, each having one or more sub-components. It could be used to measure and evaluate teaching, a) to measure and evaluate teaching, b) to give feedback, c) to improve perception and d) to diagnose the teachers.
4) **Ahluwalia's Teacher-Attitude Inventory (ATAI)**:

The attitude inventory developed by Ahluwalia, S.P (1980) consists of ninety items distributed over six sub-scales. Each sub-scale has fifteen statements related to professional attitude. Out of ninety statements fifty six are positive declarative statements and thirty four are in negative form.

5) **Raven's Standard Progressive Matrices (RSPM)**:

The scale is developed by Raven, J.C. (1977) which consists of sixty problems measuring person's general mental capacity.

6) **Tests related to Planning Abilities**:

The tests measuring the abilities offigural cognition, semantic cognition, semantic convergent and divergent production, figural divergent production and symbolic divergent production, are developed by Jnanprobo-dhini, Pune (1982) based on Guilford's model of intellect.

8.8 **PROCEDURE**:

On the first day the experimental programme began with the orientation of the student-teachers, with respect to nature of work and tasks. On the next day, in pre-testing tests such as RSPM, ATAI were administered. Then the trainings for mastery over theory of skill Reacting and mastery over planning in skill Reacting were provided for two experimental groups; whereas, the control group was given the training through microteaching in skill Reacting. Then Post-test I was administered. All the three groups were given training through microteaching in skill Reacting, and then Post Test-II was administered.
The following data were obtained after the experiment.

1) Scores of achievement in the theory check-up test of both the skills.

2) Scores of planning in both the skills.

3) Scores of general teaching performance of pre-test and all post tests.

4) Scores of skill performance of pre-test and all the post tests. The scores of skill performance were not in quantitative form, hence they were transformed in appropriate quantitative form.

These obtained data were analyzed in the light of related objectives by using the statistical techniques such as one-way ANOVA.

8.9 MAJOR FINDINGS OF THE STUDY:

The major findings drawn after the analysis are summarized as below:

1) The training strategies for mastery learning which were consisting of (a) reading, (b) a lecture based on common errors, (c) focused re-reading and (d) peer-tutoring were effective in attaining mastery over theory and planning in both the skills.

2) Training for mastery over theory and planning in both the skills was effective in improving the general teaching performance.

3) In case of open skill (Reacting) training for mastery over planning was effective in improving the total use; however, in case of closed skill (Narration) training for mastery over theory was effective.
4) Training for mastery over planning in skill Reacting was effective in improving the use of components 'Praise and Praise with because extension' and 'Reacting'; however, all the three training strategies were not effective in improving the use of component 'Acceptance'.

5) In case of closed skill Narration, training for mastery over theory was effective in improving the use of components 'Emphasis on main points' and 'Non-use of explaining links'; however, all the three training strategies were not effective in improving the use of component 'Non-use of complicated and deviated sentences'.

6) Training for mastery over theory and planning followed by microteaching, in both the skills, was effective in improving the general teaching performance and total use of skills.

7) In case of open skill - Reacting - training for mastery over planning followed by microteaching cycle was effective in improving the use of components, 'Acceptance', and 'Relating'; whereas all the three training strategies were effective in improving the use of component 'Praise and Praise with because extension'.

8) In case of closed skill - Narration - training for mastery over theory followed by microteaching was effective in improving the use of component 'Non-use of explaining links'; training for mastery over theory and planning followed by microteaching were effective in improving the use of the component, 'Emphasis on main points'; however, all the three training strategies were not effective in improving the use of the component, 'Use of complicated and deviated sentences'.

9) In case of skill Reacting, training through microteaching preceded by mastery over theory as well as planning was effective in improving the
the general teaching performance; whereas, in case of skill Narration, training through microteaching preceded by mastery over theory was effective in improving the general teaching performance.

10) Training through microteaching preceded by mastery over theory and planning in skill Reacting was effective in improving the total use of skill; however, in case of skill Narration, training through microteaching preceded by mastery over theory was effective in improving the total use of skill.

11) Training through microteaching preceded by mastery over planning in skill Reacting was effective in improving the use of the component 'Acceptance', however, all the three training strategies were not effective in improving the use of components 'Praise and Praise with because extension', and 'Relating'.

12) Training through microteaching preceded by mastery over theory of skill Narration was effective in improving the use of the components, 'Emphasis on main points' and 'Number of explaining links', however, all the three training strategies were not effective in improving the use of the component 'Use of complicated and deviated sentences'.

13) Training for mastery over theory of closed skill was superior to training for mastery over planning and training through microteaching in improving general teaching performance and total acquisition of the skill.

14) Training for mastery over planning of open skill was superior to training for mastery over theory and training through microteaching in improving the general teaching performance and total acquisition of
the skill. However, training for mastery over theory is superior to micro-teaching in the acquisition of open skill.

15) There was interaction between nature of skill and training strategy. Training for mastery over theory was effective in case of closed skill, whereas, training for mastery over planning was effective in case of open skill.

16) Contribution of closed skill - Narration was significantly more in general teaching than that of open skill.

17) The performance in case of skill Reacting was related with planning, theory, divergent operations and general mental ability.

18) The performance in case of skill Narration was associated with theory, divergent operations, cognition, general mental ability and attitude of teaching.

19) The divergent abilities were correlated with planning in both skills; and the cognition ability was associated with acquisition of theory of both the skills; the association was stronger in case of closed skill.

8.10 CONCLUDING-REMARKS:

From the above findings of the study it can be concluded that the training for mastery over theory and planning in both the skills is effective in improving general teaching performance and skill performance.

It is generally taken in granted that learning of teaching skills needs actual practice; but present study reveals that it is not so atleast in some skills like Narration and Reacting; and mere mastery over theory and planning may help in acquisition of skill. However, mastery
over theory followed by microteaching or even planning in skill will be more beneficial for acquisition of skill.

The three-dimensional structure of teaching skill differs from skill to skill. But this aspect of teaching was so far ignored in teacher education and uniform techniques were applied for training in teaching skill of different nature. The present study first time underlines the interaction between training strategy and nature of skill. For the effective acquisition of open skill training for mastery over planning is essential; this may be due to training for mastery over planning might be helping in taking appropriate interactive decisions.

For acquisition of closed skill training for mastery over theory is effective.

Implication of this finding is that the dimension of openness closeness from the three dimensions of the teaching skill is the valid dimension.

The nature of mental operations involved in learning the teaching skill, was not so far studied. The present study indicates that divergent operations are involved in learning all the skills; whereas, cognition ability is essential for acquisition of closed skill. It is also found that teaching attitude is closely associated with learning of closed skill.
8.11 **Recommendations**:

1) The self-instructional material can be used in regular micro-teaching programme in Colleges of Education which will reduce work load of teacher-educators and duration of microteaching programme.

2) The traditional concept of acquisition of skill can be changed, training through teaching practice is the traditional method used for acquisition of skills. Other training strategies i.e. mastery over theory and mastery over planning over the skills should be used, for effective improvement in GTC and skill performance.

3) The training strategy should be selected according to the nature of skill. Uniform training strategy cannot be used for all types of the skills.

4) The student-teachers should be trained in planning abilities which are directly related to teaching performance.

5) The self-instructional material and strategies of mastery-learning can be used in pre-service as well as in in-service training programme of teachers.

8.12 **Topics for Further Research**:

The following topics can be suggested for further research on the basis of the experience and the findings of the present study.

1) The self-instructional material can be supplemented with audio-visual media in order to increase its effectiveness. The effectiveness of such ultimedia packages should be tested experimentally.
2) Similar self-instructional material can be prepared for the other teaching skills.

3) The other moves of the teaching skills should be validated. A research, to validate closeness of skill with same move and openness of skill with same move can be undertaken.

4) Similar study with composite skills having more than one moves can be conducted.

5) Effect of training for mastery over theory and planning of a skill on teaching performance and skill performance can be tested.

6) The effect of other corrective measures in mastery learning, viz. a) support material, b) audio-visual aids, c) real tutoring programme, can be investigated.

7) Retention of skill behaviour must be determined in real classroom teaching.

8) The components of each teaching skill can be finalized experimentally.