CHAPTER VII

SUMMARY

AND

RECOMMENDATIONS
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SUMMARY AND RECOMMENDATIONS:

7.1. STATEMENT OF THE PROBLEM:

The present study entitled "A Study of the Different Models of Integration Exercises of Teaching Skills Learned Through Micro-Teaching upon Teaching Effectiveness and Teacher Attitude", has been presented in the thesis in seven chapters. The chapters are (I) The Problem, (II) The Experiment, (III) Analysis, Interpretation and General findings of TAB-0 score results, (IV) Analysis, Interpretation and General findings of TAB-S score results, (V) Analysis, Interpretation and General findings of ITCS score results, (VI) Analysis, Interpretation and General findings of ATAI score results and the present chapter explains the Summary and Recommendations.

As an experimental study, the present study followed the parallel group pretest - post test design (Experimental and Control group). The samples were matched on the basis of age, intelligence and academic achievement and then were divided into four groups i.e. Group I (G-I), Group II (G-II), Group III (G-III) and Group IV (G-IV). Among them G-I, G-II and G-III were regarded as experimental groups, underwent integration exercises through Diode, Summative and Additive models respectively. G-IV remained as control group (underwent no integration).
With the help of Teaching Assessment Battery O and S (TAB-O and TAB-S), Indore Teaching Competence Scale (ITCS), Ahluwalia’s Teacher Attitude Inventory (ATAI), Pretest, Post test I and Post test II scores were obtained. The score obtained before any experimental treatment was called pretest score. After mastering over five skills in micro-teaching practice and integration exercises through Diode, Summative, Additive models of integration, the scores obtained were regarded as post test I and post test II scores respectively. The differences between post test I and pretest, post test II and post test I and post test II and pretest were regarded as gain(1), gain(2), and gain(3) scores respectively.

7.1.1. OBJECTIVES OF THE STUDY:

The objectives of the present study are as follows -

- To assess whether training through micro-teaching brings about substantial changes in teaching competence, teaching efficiency and in the attitude of the student teachers.

- To find out whether training through micro-teaching brings about significant effect on the mean gain score in teaching efficiency, teaching competence and in the attitude of the student teachers.

- To assess gains in integration of teaching skills for the student teachers who participated in integration-based instruction after micro-teaching practice.
- To compare the effectiveness of vicarious integration and Summative, Additive and Diode models of integration of teaching skills on General Teaching Competence, Teaching Effectiveness and its effects on the attitude of the student teachers.

- To compare the effectiveness of gain in scores of vicarious integration and integration through Diode, Summative and Additive models of integration of skills on General Teaching Competence, Teaching Effectiveness and its effect on the attitude of the student teachers.

- To study the comparative changes in six areas of attitude of the student teachers who participated in integration oriented instruction and those who do not.

7.1.2. HYPOTHESIS:

The hypotheses are as follows -

(i) There is no significant difference between groups following Diode, Summative and Additive models of integration and the group following vicarious integration in respect of post test I and pretest in TAB-D, TAB-S, ITCS and ATAI.

(ii) There is no significant difference between groups following Diode, Summative and Additive models of integration and the group following vicarious integration in respect of post test II and post test I in TAB-D, TAB-S, ITCS and ATAI.
(iii) There is no significant difference between Diode and Summative models, Diode and Additive models and Summative and Additive models on the gain in scores between post test I and pretest in respect of TAB-O, TAB-S, ITCS and ATAI.

(iv) There is no significant difference between Diode and Summative, Diode and Additive and Summative and Additive models on the gain in scores between post test II and post test I in respect of TAB-O, TAB-S, ITCS and ATAI.

(v) There is no significant difference between Diode and Summative, Diode and Additive and Summative and Additive models on the gain in scores between post test II and pretest in respect of TAB-O, TAB-S, ITCS and ATAI.

(vi) There is no significant difference between post test I and pretest mean gain score of G-I, G-II, G-III & G-IV in the six areas of ATAI.

(vii) There is no significant difference between post test II and post test I mean gain score of G-I, G-II, G-III and G-IV in the six areas of ATAI.

(viii) There is no significant difference between post test II and pretest mean gain score of G-I, G-II, G-III and G-IV in the six areas of ATAI.
7.1.3 TOOLS USED IN THE STUDY:

To realise the stipulated objectives the following tools were used.

(i) Personal Information Blank:

A self-made information blank was used to get data concerning age, educational qualification, teaching experience of the subjects.

(ii) Cattle's Culture Fair Intelligence tests scale:

Cattle's Culture Fair Intelligence tests scale Form A was used to assess the level of intelligence of the subjects. As a culture fair test the test claims a good content validity ($r = 0.85$) where dependability co-efficient extends from .84 to .94. The test has 4 sub-tests with different number of items (Total 50) and the time allotted is $12\frac{1}{2}$ minutes. Two responses are required for each item. It is easy to score with the help of scoring key.

(iii) The Ahluwalia's Teacher Attitude Inventory (ATAI):

The ATAI was used to obtain attitude of the student teachers. This inventory is a 90 item likert type instrument consisting of 6 sub-scales, each scale with 15 positive and negative statements. It has got five point rating scale which ranges from strongly agree to strongly disagree. The inventory claims split-half reliability (.79) (correlated .88) with
satisfactory content validity.

(iv) Indore Teaching Competence Scale (ITCS):

The ITCS was used to assess the integration of skills of the student teachers. The scale consists of 20 statements with five possible responses ranging from not at all to a great extent. This is an observational schedule used by the supervisor while the student teachers delivered lessons.

(v) The Teaching Assessment Battery (TAB-O):

The TAB-O comprises two scales Form O and Form S, former to be used by the observer and later is a self rating to rate the teaching performance of the subjects. Each test comprises of 20 items corresponding to 20 teaching skills and different aspects of teaching which are weighted in a five point scale ranging from Very weak to Excellent.

(vi) Evaluation Forms for Teaching Skills:

Frequency and rating type evaluation pro forma were used for five skills i.e. Probing Questioning, Reinforcement, Stimulus Variation, Explaining and Illustration with example used by the observer or peer supervisor to mark the occurrence of the skills during practicing the skills in the class-room.

7.2. METHOD OF STUDY:

This being an experimental study, parallel group pretest - post tests design were followed. The samples were
matched on the basis of age, intelligence, educational qualifications and teaching experience to ensure comparability of results. The subjects were equated into four groups of six each i.e. G-I, G-II, G-III and G-IV. The subjects of G-I, G-II, G-III were regarded as experimental group who underwent integration exercises through Diode model, Summative model and Additive model respectively. G-IV was regarded as control group who underwent vicarious integration.

Different groups were provided with different treatments. The scheme followed for the experiment is as follows -

7.2.1. SCHEME FOR THE EXPERIMENT:

(i) **Pre-testing:**

Two regular lessons were observed by the investigator on TAB-O and ITCS later on ATAI and TAB-S were administered.

(ii) **Experimental Treatment (Micro-teaching practice):**

- **Step -I** Orientation to micro-teaching.
- **Step -II** Discussion of the teaching skills.
- **Step -III** Presentation & discussion of micro-lesson by the investigator.
- **Step -IV** Preparation of micro-lesson plan by the student teachers.
- **Step -V** Micro-teaching session.

(a) **Time**

36 minutes was the time duration which was divided into -
Teach - 6 mts  
Feedback - 6 mts  
Replan - 12 mts  
Reteach - 6 mts  
Refeedback - 6 mts

(b) **Sequence of skills**

The sequence of skills followed were -
- Probing Questioning.
- Stimulus Variation.
- Reinforcement.
- Explaining.
- Illustration with Examples.

(c) **Observer**

Two peers acted as observers. Except in confusing circumstances the investigator acted as observer.

(d) **Immediate feedback was provided.**

(e) **Two cycles were followed for each skill.**

Step-IV The performance of the student teachers on five skills were observed through frequency and rating type observation schedule.

(ii) **Post test I:**

Two regular lessons were observed by the investigator on TAB-0 and ITCS later on TAB-5 and ATAI were administered.

**Treatment Variation for Experimental and Control Group:**

After post test I (micro-teaching treatment), treatment variations started which are as follows -
<table>
<thead>
<tr>
<th>STEPS</th>
<th>GI - DIODE MODEL</th>
<th>GIII - ADDITIVE MODEL</th>
<th>GIV - SUMMATIVE MODEL</th>
<th>GIV - CONTROL GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Orientation on integration of skills through Diode model for 20 mts.</td>
<td>Orientation on integration of skills through Additive model for 25 mts.</td>
<td>Orientation on integration of skills through Summative model for 30 mts.</td>
<td>The control group took five class of 44 mts each in real classroom situation where there was no feedback.</td>
</tr>
<tr>
<td>II</td>
<td>Demonstration of two skills (PQ+SV) for 10 mts.</td>
<td>Demonstration of two skills (PQ+SV) for 8 mts.</td>
<td>Demonstration by the investigator for 20 mts.</td>
<td>Presentation, Discussion of model lesson for 30 mts.</td>
</tr>
<tr>
<td>III</td>
<td>Presentation of model lesson and discussion for 10 mts.</td>
<td>Presentation of model lesson and discussion for 12 mts.</td>
<td>Presentation, Discussion of model lesson for 20 mts.</td>
<td>Practisation by the student teachers the Summative model of integration of all the skills for four cycles where teach and reteach session were each of 25 mts with 10 mts of feedback</td>
</tr>
<tr>
<td>IV</td>
<td>Practisation of skills teach - reteach and feedback for 30 mts.</td>
<td>Practisation of skills teach - reteach and feedback for 26 mts.</td>
<td>Practisation of three skills for 30 mts.</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Demonstration of other two skills (E+SV) for 10 mts.</td>
<td>Demonstration of integration of three skills. Presentation of model lesson and discussion for 15 mts.</td>
<td>Demonstration of other two skills (E+IWE) for 10 mts.</td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td>Presentation of model lesson and discussion for 10 mts.</td>
<td>Practisation of three skills for 30 mts.</td>
<td>Demonstration and discussion of integration of skills (PQ+SV+R+E) for 20 mts.</td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td>Practisation of skills teach - reteach and feedback for 30 mts.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIII</td>
<td>Demonstration of other two skills (E+IWE) for 10 mts.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IX  Presentation and discussion for 10 mts.

X  Practisation of skills teach - reteach, feedback for 30 mts.
   Practisation in real class-room situation - teach - reteach - refeed-
   back for 30 mts.

XI  Demonstration of five skills for 20 mts.
   Demonstration, presenta-

XII  Presentation and discu-
    sson for 10 mts.

XIII Practisation of all the skills - teach - reteach - feedback for 30 mts.
    Practisation of all the skills - teach - reteach - feedback for 34 mts.
Treatment Variation for Experimental and Control Group:

The treatment variation started after micro-teaching treatment. Among the four groups G-I, G-II, G-III were treated as experimental groups who underwent integration exercises in Diode, Summative and Additive models respectively and the G-IV was treated as control group who underwent vicarious integration.

(iii) Post test II (A.B.C.D):

All the student teachers of the four groups delivered two regular lessons after experimental treatment. The performances were observed on the basis of TAB-O and ITCS and later on TAB-S and ATAI were administered.

The scores were analysed with the help of co-related 't' test (Parametric test) followed by Z test (Sum of rank test; Non-parametric test) to get valid result. Inter and intra-group comparison was made to obtain the effect of micro-teaching practice followed by Diode model, Summative model and Additive model of integration exercises upon teaching efficiency, teaching competence and attitudional development.

7.3. MAJOR FINDINGS:

The major findings are as follows;

(i) Exposure to micro-teaching results in improvement of
teaching efficiency of all participants as viewed by the observer (Table 6, Table 7) as well as viewed by the student teachers (Table 16, Table 17). However, micro-teaching shows similar effect on all the groups in developing teaching efficiency (Table 10 and Table 11 show observers rating) (Table 20 and Table 21 show self-rating).

(ii) Exposure to Diode, Summative and Additive models of integration exercises produces significantly greater effect in developing the teaching efficiency of the student teachers than vicarious integration exercises (Table 8 and Table 9 show observers rating) (Table 18 and Table 19 show student teachers rating). The improvement is, however, uneven for different models of integration where it shows that Additive model is superior to Diode model in developing teaching efficiency. However, there is no significant difference in teaching efficiency between the groups practising Summative and Additive models and between the groups practising Diode and Summative model. As per student teachers self-rating, Additive model of integration is superior to Diode model of integration and Summative model of integration is superior to Diode model of integration in developing teaching efficiency of the student teachers. Where as Summative and Additive models show equally similar effect in developing teaching competence (Table 12, Table 13 show observers rating, Table 22, Table 23 show self-rating).
(iii) Exposure to integrations based instruction (Diode, Summative and Additive) after micro-teaching practice shows significant affect in developing teaching efficiency of the student teachers compared to micro-teaching practice followed by vicarious integration (Table 14 and Table 15 show observers rating) (Table 24 and Table 25 show students rating).

(iv) Exposure to micro-teaching practice results in improvement of teaching competence of the student teachers of all the groups (Table 26 and Table 27) and this improvements are even for all the groups (Table 30 and Table 31).

(v) Exposure to integrations based instruction (Diode, Summative and Additive models of integration) after micro-teaching practice significantly increases the teaching competence of the student teachers compared to vicarious integration (Table 28 and Table 29) and the improvement of teaching competence is even for all the experimental groups (Table 32 and Table 33).

(vi) Exposure to micro-teaching practice produces favourable attitudional changes of Group I (Diode model of integration) towards Teaching Profession, Educational Process and Teacher (Table 36 and Table 37). Group II (Summative model of integration) shows attitudional development towards Teaching Profession, Child-centred Practices, Educational Process and Teachers (Table 42 and Table 43).
Group III (Additive model of integration) shows positive attitude towards Teaching Profession, Class-room Teaching, Child-centred Practices and Teachers (Table 48 and Table 49).

Group IV (Control group) shows positive attitude towards Teaching Profession, Child-centred Practices and Educational Process (Table 54 and Table 55).

(vii) Exposure to integration oriented instruction have resulted in favourable attitudinal changes of Group I (Diode model of integration) towards Teaching Profession, Class-room Teaching and Teachers (Table 38 and Table 39), of Group II (Summative model of integration) towards Teaching Profession, and Teachers (Table 44 and Table 45) and of Group III (Additive model of integration) towards Class-room Teaching, Educational Process, Pupils and Teachers. On the other hand no significant changes in attitude are found in Group IV which was not exposed to integration oriented instruction (Table 50 and Table 51).

(viii) When over-all performances are viewed the student teachers of Group I (Diode model) have developed attitude towards Teaching Profession, Educational Process, Class-room Teaching and Teachers (Table 40 and Table 41).

Group II (Summative model) has shown favourable attitude towards Teaching Profession, Class-room Teaching, Child-centred Practices, Educational Process and Teachers.
(Table 46 and Table 47). Group III (Additive model of integration) has shown favourable attitude towards all the six areas of attitude (Table 52 and Table 53). Group IV (Control group) has shown favourable attitude towards Teaching Profession, Class-room Practices, Child-centred Practices, Educational Process and Teachers (Table 58 and Table 59). Group IV results is quite encouraging in the sense that they did not show any favourable attitude when post test II and post test I results were evaluated but when pretest and post test II results were analysed they showed favourable attitude.

(ix) Exposure to micro-teaching results in improvement of attitudinal changes of all the student teachers (Table 60 and Table 61) and this improvement is even for all the groups (Table 64 and Table 65).

(x) Exposure to integration oriented instructions have caused more favourable attitudional changes of student teachers compared to micro-teaching practice followed by vicarious integration (Table 62 and Table 63).

7.4. RECOMMENDATIONS:

Micro-teaching has brought a revolution in the process and product of teacher education programme is ascertained from the results of previous studies and it is implemented
in colleges of education, teacher training colleges in India and abroad. The present research findings, therefore, can be added to the previous fund of knowledge with the aim of strengthening the theory and practice of teaching and teacher education programme.

Teacher's behaviours have got direct and significant impact on the performance of the student and in influencing each and every aspect of their life. The teachers, therefore, the builders of the nation, and the destiny of a country depends on the quality of teachers she produces.

Multifarious criticisms are levelled against the traditional practice teaching programme which are to be eradicated to save the national wastage. The increasing dropout rate in the schools and colleges are due to the ineffective teacher and the defective methods of teaching. The traditionally oriented teacher training programme fails to develop within the teacher the capacity or ability to manage their teaching learning situation as per the situations warrant. This, in turn, retards the learning outcomes of the students. Micro-teaching, to a considerable extent, tries to lessen all these problems.

The general observation of the researcher reveals that traditional practice teaching programme enhances frustration within the student teachers for the first few weeks which is lessened in micro-teaching programme.
Another implication of the present study which corresponds to the previous studies is to produce good teachers. In micro-teaching programme, the goal is specified from the very beginning to train the teachers on specific skills in terms of teachers behaviours to realize the objectives of education. The student teachers also work with the peers who act as supervisor, therefore, the fear lessens which enables the student teachers to realise their goal. The present study has shown the impact of micro-teaching in attitudinal changes and in developing teaching efficiency and teaching competence of the student teachers.

The present study strengthens the view that the skills once practised can rarely be forgotten. The teacher's active role and his body movements in the classroom i.e., movements of hand, head, gestures, postures motivate the students towards the subject matter. The efforts on the part of the teacher to reveal correct response out of no response and practical correct response reinforces the students to strengthen the will and desire to respond correctly.

The student teacher after practising the micro-teaching, is thrown out to the micro-teaching situation with the assumption that individually mastered skill can be of help to the student teachers in micro-situation as well. The present research finding, however, supports that integration exercises (Diode, Summative and Additive strategy) have
(iii) A similar study may be conducted to verify and validate the results of the present investigation.

(iv) Five skills have been taken and three models of integration have been tried out in the present study. Any number of skills and strategies of integration can be taken to know the effect of the skills and integration on teaching efficiency and teaching competence.

(v) Further investigation may be undertaken with standardised tools/scales having high reliability and validity to obtain better results than the present study.

(vi) Delayed or descriptive or qualitative feedback may be given apart from immediate and quantitative feedback given in the present study.

(vii) Basically, micro-teaching as a training device is used in training the secondary school teachers beyond that it has not reached other fields. Therefore, this programme should be extended to elementary teacher training programme and other allied training institutions where skill training is required.

(viii) The duration of B.Ed. training course in our country is, generally, one year. Within the limited period it is not possible on the part of the student teachers to acquire the basic knowledge of skill required for teaching learning situation. Moreover, practising the skills and
significantly show greater effect than no integration strategy after micro-teaching practice. Therefore, the necessity of practising integration of skills after micro-teaching practice is one of the major implications of the present study.

The major finding and educational implication of the present research, therefore, have shown the impact of integration exercises (Diode, Summative and Additive) in developing teaching efficiency and teaching competence and have got significant attitudional changes of the student teachers. Therefore, whenever micro-teaching practice is followed we should use any of these integration exercises to get better results.

7.5. IMPLICATIONS FOR FURTHER STUDY:

(i) Previous research studies have established the fact that micro-teaching is a better teaching technique for which most of the teacher training institutions in India and abroad have adopted it. The present study also supports the previous studies and suggests that micro-teaching should be used in all the teacher training programmes in India.

(ii) The present study was undertaken with a small number of sample, therefore, the sample size may be enlarged in order to have specific generalisations.
exhibiting them in real class-room situation is not at all possible within the limited time. Therefore, on the basis of the experience gathered out of the present study, the duration of the course should have at least two years to fulfil its basic needs.

(ix) At central level, except few programmes and projects conducted by Department of Teacher Education, NCERT, on micro-teaching, no attention is being paid to bring any innovation in teacher education programme in general and micro-teaching programme in particular. As a result of which a few get the insight of new innovation in Teacher Education Programme in general and micro-teaching in particular. Therefore, at the state level and at regional level it should be organised by Regional Colleges and it should be organised by Department of Teacher Training Colleges through extension services.

(x) Each and every training college, managed by the state government, should take up at least two projects per year on different dimensions and aspects of micro-teaching to bring innovation and effectiveness to the existing teacher education programme.

(xi) The present study strongly proposes the use of integration exercises (Diode, Summative and Additive model of integration) whenever micro-teaching as a training device is used to obtain better teaching competence and teaching efficiency of the student teachers.