CHAPTER VI

CONCLUSIONS AND SUGGESTIONS
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CHAPTER VI

CONCLUSIONS AND SUGGESTIONS

6.1 The Study in Retrospect

The study entitled Feasibility of Implementing Modern Instructional Strategies in the Institutions of Teacher Education in Kerala is an attempt to study the practicability of Modern Instructional Strategies like module and mastery learning in the Institutions of Teacher Education in Kerala. Teacher education programme is an inevitable pre-requisite for an effective educational system all over the world. Teacher is one of the key persons to initiate and sustain the quality of education. Thus, the education of teachers at all levels is highly acknowledged by researchers and policy makers. The subject matter of the training programme as well as the instructional strategy should be most effective to derive expected goals. The present study examines the effectiveness of modern instructional strategies such as Modular and Mastery Learning methods in teacher education programme.

Variables of the Study

Two teaching strategies namely the Modular and Mastery learning strategies form the independent variables and the achievement of teacher trainees, the dependent variable.

6.2 Objectives of the Study

1. To ascertain the methods of teaching adopted in the Institutions of Teacher Education.
2. To examine the extent of awareness on modern teaching methods among teacher educators.

3. To survey the facilities available in the Institutions of Teacher Education in Kerala for attempting modern instructional strategies.

4. To ascertain the attitude of teacher educators towards modern instructional strategies.

5. To establish the relationship between Socio-economic status of teacher trainees and their achievement in Modular and Mastery Learning strategies.

6. To compare the effectiveness of Modular and Mastery Learning strategies.

6.3 Hypotheses of the Study

1. Certain pre-conditions are essential for the effective implementation of modern instructional strategies in the Institutions of Teacher Education.

2. Majority of the teachers in the Institutions of Teacher Education in Kerala are unaware of the innovations in teaching.

3. Use of modern instructional strategies will be more effective than the approaches followed by teachers in the Institutions of Teacher Education in Kerala.

4. Existing physical facilities and academic atmosphere in the Institutions of Teacher Education are inadequate for the effective implementation of modern instructional strategies.
5. Socio-economic status is a deciding factor in improving achievement of teacher trainees through modern instructional strategies.

6.4 **Summary of Procedure**

Survey-cum Experimental method was followed in the study. The design selected was post-test only control group design. Two tailed t test of significance of difference between means, z test for proportion, Pearson's Product Moment Coefficient of Correlation, ANOVA and Regression analysis were used in this study,

1. The survey method was adopted for collecting details of physical and academic infrastructure available in the Institutions of Teacher Education in Kerala by administering check-list prepared for this study.

2. Information on the awareness of teacher educators on Module and Mastery learning strategies was collected through Module and Mastery learning Questionnaire prepared by the investigator and administered to 400 teacher educators of the Institutions of Teacher Education.

3. Experimental method was adopted to find out the feasibility of implementing two modern instructional strategies namely Modular and Mastery learning. 240 teacher trainees of the Institutions of Teacher Education formed the sample for the experimental study.

4. The information on Socio-economic status and academic achievement were collected through the administration of the modified form of Socio-economic status scale, prepared and standardized by Nair (1970). Achievement scores of the 240 teacher trainees on the achievement
test were used to test the feasibility of modern instructional strategies for the experimental and control groups. The findings were further studied by establishing relationship of Socio-economic status and academic achievement with Modular and Mastery learning strategies.

The experimental part of the study is based on 240 Teacher Trainees selected randomly from four Teacher Education Institutions. Equal numbers of samples were selected from each institution in such a way to attain equal proportions of males and females. The sampling procedure also, kept equal proportion of Teacher Trainees from urban and rural institutions as well as from Government and private institutions. The samples from each institution were further divided into experimental and control groups by keeping the proportion of males and females. So ultimately the sample was grouped into one control group and two experimental groups. One experimental group was used to test the effectiveness of Modular Learning strategy and the other, the effectiveness of Mastery Learning strategy.

The data for the study were collected through a personal information, a scale of attitude towards Modern Instructional strategies and a module on the selected topic “Individual differences”. Modular and Mastery Learning questionnaires and a questionnaire regarding the present physical facilities and academic atmosphere in Institutions of Teacher Education were also used for collecting information for the study. A check list was also used to identify the methods of teaching adopted in the Institutions of Teacher Education.
The effectiveness of Modular and Mastery Learning was studied for total sample as well as sub samples. For analysis purpose, the sample was sub divided according to gender, locality and management of the Training Institution. Socio-economic status of the Teacher Trainees and their academic achievement were also used to study the effectiveness of Modular and Mastery Learning strategies.

The control group and the experimental groups were compared with respect to their Socio-economic characteristics and academic achievement to ascertain their homogeneity. The Socio-economic status of the Teacher Trainees was measured in terms of parental occupation, parental education and parental income. The academic achievement at graduate level of the teacher trainees was measured in terms marks for the qualifying examination. The result of comparison shows that the experimental and control groups were having similar Socio-economic status and equal academic achievement at graduate level. The experimental and control groups in each sub groups were also found to be homogenous in their Socio-economic status and academic achievement at graduate level.

The effectiveness of Modular and Mastery Learning Strategies was tested by applying them to two experimental groups of teacher Trainees. The test items were prepared from the content area of the B.Ed syllabus "Individual Difference: Heredity and Environment" in Educational Psychology. The results of the test was compared to that of the control group using Conventional Learning strategy for same test items.
Modular strategy uses modules as the basic unit of instruction prepared by the investigator. Module is a self-learning package which contain everything needed for self instruction. The topic for the module was selected after examining the content of the B.Ed curriculum and discussion with teacher educators and subject experts. The topic was broken down into three subunits and each units covers the content, objectives, instructional strategies and evaluation aspects.

6.5 **Tenability of Hypotheses**

The first hypothesis was that certain pre-conditions are essential for the effective implementation of modern instructional strategies in the Institutions of Teacher Education. Regression analysis was used for studying the combined effects of extraneous variables of the achievement of teacher trainees through Modular and Mastery Learning strategies. From sections 5.5.2.1.5 and 5.5.2.2.5 it can be seen that place and management of the institutions and gender of the teacher trainees have significant impact of the achievement of teacher trainees through Modular and Mastery Learning strategies. Socio-economic status of teacher trainees and their achievement at graduate level do not have any significant impact of their achievement through Modular and Mastery Learning strategies.

The second hypothesis states that majority of the teachers in the Institutions of Teacher Education in Kerala are unaware of the innovations in teaching. From section 5.2, it can be seen that the average score of teacher educators' awareness on Modular and Mastery Learning strategies are 97.89
and 89.15 respectively. Since the maximum score in the awareness questionnaire is 120, the awareness score of teacher educators are substantially high. This indicates that majority of teachers in the institutions of teacher education in Kerala are aware of the innovations of teaching.

The third hypothesis states that the use of modern instructional strategies will be more effective than the approaches followed by teachers in the Institutions of Teacher Education. From section 5.4., it can be seen that Modular and Mastery Learning strategies are more effective than the approaches followed by teachers in the Institutions of Teacher Education. The test statistics used for comparison is t-statistics. In the case of Modular and Mastery Learning strategies, female teacher trainees, teacher trainees from urban institutions and those from private institutions have more improvement than those of their counterparts. This suggests that the third hypothesis is substantiated.

The fourth hypothesis states that the existing physical facilities and academic atmosphere in the Institutions of Teacher Education are inadequate for the effective implementation of modern instructional strategies. From sections 5.1.1, 5.1.2 and 5.1.3, it can be seen that the physical facilities and academic atmosphere are inadequate. The z statistics to test 50 percent of proportion in a population is used for testing the hypothesis. From section 5.3, it can be seen that teacher educators have a favourable attitude towards modern instructional strategies.
The fifth hypothesis states that Socio-economic status is a deciding factor in improving achievement of teacher trainees while using modern instructional strategies. From sections 5.5.2.1.4 and 5.5.2.2.4, it can be seen that Socio-economic status is not a deciding factor in improving achievement of teacher trainees while using modern instructional strategies. This hypothesis was tested using ANOVA.

6.6 **Findings and Conclusions**

1. The study showed that teacher trainees who were subjected to Modular and Mastery Learning strategies achieved significant improvement over those who were taught through Conventional Learning method.

2. Modular and Mastery Learning strategies have a significant positive impact in the case of female teacher trainees.

3. Modular and Mastery Learning strategies show significant difference among teacher trainees from urban and rural institutions. The results indicate that the achievement through Modular and Mastery Learning strategies is higher among urban teacher trainees.

4. Modular and Mastery Learning strategies do not have significant difference in the achievement of teacher trainees from Government and private institutions.

5. Socio-economic status does not have much influence in the achievement of teacher trainees through Modular and Mastery Learning strategies.
6. Academic achievement does not have much influence in the achievement of teacher trainees through Modular and Mastery Learning strategies except among teacher trainees from the Government institutions.

6.6.1 Opinion of teacher educators on adequacy of facilities.

The highest proportion of teacher educators think that the all round development of personality is the main objective of the library. Broadening of interest and educating the working groups are the other major objectives mentioned by major section of teacher educators.

Majority of teacher educators pointed out that a central library, with subject-wise classification is advisable, while a minority of teacher educators suggested class library with subject-wise classification. About library administration majority of the teacher educators suggested a separate wing in the D.C.E's office, about one-fourth of the teacher educators supported library administration by Government.

Eighty percent of the teacher educators were of the opinion that the location of laboratory is not comfortable. The number of students at a time and the area of laboratory were pointed out as inadequate by 77.5 percent and 75 percent of teacher educators respectively.

Furniture, equipments, apparatus and chemicals were found inadequate. Stock facilities, replacement and repair provisions were also found to be inadequate.
Most prevalent method of teaching adopted by teacher educators is Lecture Method. Discussion is the other most favoured method of the teacher educators at the undergraduate level of teacher education. Demonstration and Project methods are also preferred by teacher educators. At the same time, Modular, Mastery, Heuristic, Individual laboratory method, panel discussion and brainstorming, are not at all used by any of the teacher educators.

Most of the teacher educators opined that the lack of facilities (81.0 percent) was the greatest difficulty for using the modern methods for teaching. So, teacher educators concentrate on traditional method of teaching, namely lecture method.

Results of survey on the physical facilities and academic atmosphere of Teacher Education institutions along with the opinion of teacher educators of the fifty teacher education institutions showed that the present physical facilities and academic atmosphere in the Teacher Education institutions are inadequate especially for implementing modern instructional strategies.

6.6.2 Awareness of teacher educators on Modular and Mastery Learning strategies.

Awareness about Modular and Mastery Learning strategies is also high among the sample teacher educators. Male teacher educators have more awareness about Modular and Mastery Learning strategies than female teacher educators. The results also show that teacher educators from urban
as well as private institutions have higher awareness on Modular learning strategy.

6.6.3 **Attitude of teacher educators about Modern Instructional Strategies.**

The attitudes of teacher educators towards modern instructional strategies were studied through a Scale of Attitude towards Modern Instructional Strategies (SATMIS). The attitude of teacher educators is found to be favourable towards Modern Instructional Strategies (Score = 96.52). The female teacher educators are found to have more favourable attitude than male teacher educators. Similarly, teacher educators from urban institutions and private institutions are also found to have more favourable attitude towards Modern Instructional Strategies than their counterparts from rural and the Government institutions respectively.

6.6.4 **Effectiveness of Modular and Mastery Learning strategies.**

The result thus indicates that Modular Learning strategy and Mastery Learning strategy are more effective than the conventional method. At the same time, results of analysis show that among these strategies Modular strategy is superior to Mastery learning strategy. The result shows that in all sub groups, except among teacher trainees from urban and rural, there is significant difference in the achievement through Modular and Mastery Learning Strategies. In all groups, achievement through Modular learning is more than that of Mastery Learning.
Modular and Mastery Learning Strategies can be effectively implemented in an institution only if the teacher educators are having favourable attitude towards those modern instructional strategies and also, they should have adequate awareness about them. The adequacy of the facilities available in the teaching institution is also an important prerequisite for the effective implementation of Modern Instructional Strategies.

6.6.5 Facilitating conditions for the effective implementation of Modular and Mastery Learning strategies.

The following conditions are identified as facilitating conditions for the effective implementation of the modular and mastery learning strategies.

1. Lower teacher-pupil ratio.
2. Rooms-spacious and well suited for independent work of teacher trainees.
3. A full fledged library with spacious reading room; sufficient seats, sufficient number of books and Journals with open access system.
4. Flexible time scheduling allowing teacher trainees more time for library and independent work.
5. Well-equipped science and psychological laboratories.
6. Well-equipped audio-visual room with A-V aids instructor.
7. Teacher educators oriented towards new approach.
8. New evaluation tools, test materials, standardized tests, question bank and so on.
6.7 Educational Implications

No one would deny that good teaching is the focal point of our educational system. If adequate supply of effective teachers is ensured in the Institutions of Teacher Education, the number of institutions of attaining desirable educational objectives is substantial. On the other hand, if teachers are incompetent or are misfits, excellent material resources in the form of buildings, equipments and text books are likely to be ineffective, if not wasted.

Personal decisions are constantly being made by institutional boards and administrators in selecting and promoting teachers but there is little agreement about the relative importance of qualifications like pedagogical training, attitude and other related personality characteristics.

The primary aim of research in teacher education is and should be to make teacher education programmes more effective and useful for the institutions in particular and for the community in general by providing teachers equipped adequately with a sound knowledge of their subjects of specialization, professional competencies and deep insight into human nature and human relationships.

The implications arising out of the study are presented in terms of theoretical aspects of modular and mastery learning strategies, implementations of modular and mastery learning strategies and physical facilities and academic atmosphere in the Institutions of Teacher Education. The intention is also to provide the information necessary to build up the
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conditions necessary for a model implementation of modular and mastery learning strategies.

1. Conventional teaching method should be replaced with modern instructional strategies.

2. Modular Learning strategy is more suitable for teacher trainees in the Institutions of Teacher Education.

3. The physical facilities of the Institutions of Teacher Education should be improved.

4. The academic atmosphere in the Institutions of Teacher Education should be made more conducive for the effective implementation of modern instructional strategies.

5. The administrative and functional gaps between urban and rural institutions should be minimized.

6.8 Suggestions for Further Research

1. A similar study can be attempted for the secondary level pupils.

2. Replication of the study using state wise samples with alternate experimental designs can be attempted.

3. The other strategies listed in the theoretical overview can be compared with the achievement of teacher trainees.

4. A study on relationship between creativity and adjustment towards modern instructional strategies can be attempted.

5. Correlation of intelligence and personality variables with modern instructional strategies can be investigated.
6. A study can be attempted to find out the impact of Socio-economic and educational characteristics of teacher educators on the effective implementation of modern instructional strategies.

7. The other topics of psychology can be compared with the achievement of teacher trainees.
BIBLIOGRAPHY