CHAPTER - V

Findings, Interpretations, Recommendations and Suggestions
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5.01. INTRODUCTION

This chapter reports a summary of the major findings, interpretations, recommendations and suggestions. Interpretations involve essentially subjective reactions of the researcher, which she attempts to derive meaning from the objective data in her profession. It calls for critical examination of the results of the analysis in the light of the limitations of this data gathering.

5.02. FINDINGS

1.0. Natural Science teacher trainees have very high difficulty in preparing lesson plan and less difficulty in nature of teaching. The extent of difficulty is somewhat equal in all problem areas.

1.1. Female teacher trainees have comparatively more problems than male teacher trainees during practice teaching. The male teacher trainees have more difficulty in method of teaching and less difficulty in lesson planning during practice teaching programme.

1.2. Teacher trainees with minimum qualification and higher qualification have comparatively negligible difference in their difficulty during practice teaching. Natural Science teacher trainees with minimum qualification have a lot of problem in evaluation and less difficulty in pupil response. Teacher trainees of higher qualification have lot of difficulty in pupil response and less difficulty in evaluation.

1.3. Natural Science teacher trainees with age group between 26 and 30 have comparatively more difficulty during practice teaching than age group between 21 and 25 and above 30 age.
Age group between 21 and 25 have more difficulty in school selected for practice teaching selected for practice teaching and less problem in nature of teaching.

Teacher trainees with age between 26 and 30 have lot of problem in lesson planning and less difficulty in schools related with school selected for practice teachings.

Teacher trainees with age above 30 have more problems in evaluation and less difficulty in classroom management and discipline.

1.4. Natural Science teacher trainees with Botany specialisation and Zoology specialisation have very little difference in their difficulty during practice teaching.

Natural Science teacher trainees with Zoology specialisation have much difficulty in relation with school selected for practice teaching and less difficulty in evaluation.

Teacher trainees with Botany specialisation have lot of difficulty in evaluation and less difficulty in nature of teaching during practice teaching programme.

1.5. Teacher trainees with teaching experience and without teaching experience have negligible difference in their difficulties during practice teaching.

Natural Science teacher trainees with experience have more difficulty in lesson planning and less difficulty in teaching aid and biology text.

The inexperienced teacher trainees have more difficulty in classroom management and discipline and less difficulty in pupil response.

1.6. Natural Science teacher trainees from urban training colleges experience much difficulty in practice teaching than trainees from rural training colleges.

Teacher trainees from rural training colleges have lot of problem in method of teaching and less problem in teaching aid and biology text.
The Natural Science teacher trainees from urban training colleges have much difficulty in teaching aid and using biology text and less difficulty in method of teaching during teaching practice programme.

1.7. Natural Science teacher trainees from unaided training colleges face more difficulty during practice teaching than trainees from aided and university colleges.

Teacher trainees from aided training colleges have more difficulty in classroom management and discipline and less difficulty in nature of teaching. The teacher trainees from unaided training colleges have lots of problems in teaching aids and biology text and less difficulty in evaluation.

Teacher trainees from university colleges have lots of problem in method of teaching and less problem in teaching aids and biology text during practice teaching programme.

1.8. The Natural Science teacher trainees who selected rural schools and urban schools for practice teaching have negligible difference in their problems during practice teaching. Teacher trainees those who selected rural schools have lot of difficulty in teaching aids and biology text and less difficulty in pupil response.

Teacher trainees who selected urban schools have lots of problems in pupil response and less difficulty in teaching aid and biology text during practice teaching.

1.9. Natural Science teacher trainees who selected government schools have more problems in lesson planning and less difficulty in method of teaching.

Teacher trainees who choose aided schools for practice teaching have more problems in method of teaching and less problems in teaching aid and biology text during practice teaching.
1.10. Natural Science teacher trainees who choose boys school have comparatively more problem than girls and mixed schools in their practice teaching.

Teacher trainees who selected boys' schools for practice teaching have more difficulty in schools selected for practice teaching and less difficulty in classroom management and discipline.

Teacher trainees who selected girls' schools for practice teaching more difficulty in evaluation and less difficulty in schools selected for practice teaching.

Teacher trainees who selected mixed schools have many difficulties in method of teaching and few difficulties in nature of teaching during practice teaching programme.

2.1. There is no significant difference in their problems in schools selected for practice teaching, lesson planning, nature of teaching, pupil response, teaching aids and biology text, classroom management and discipline, and evaluation between male and female Natural Science teacher trainees during practice teaching programme.

There is significant difference in method of teaching among male and female teacher trainees during practice teaching programme. Natural Science female teacher trainees have more difficulty in method of teaching than male teacher trainees.

2.2. There is no significant difference in school selected for practice teaching, lesson planning, method of teaching, nature of teaching, pupil response, teaching aids and biology text, classroom management and discipline, and evaluation between Natural Science teacher trainees with minimum qualification and higher qualification during practice teaching.

2.3. There is no significant difference in problems like school selected for practice teaching, lesson planning, method of teaching, nature of teaching, pupil response, teaching aids and biology text, and classroom
management and discipline between Natural Science teacher trainees with subject specialisation Zoology and Botany during practice teaching. There is significant difference in difficulty in evaluation among Natural Science teacher trainees with Zoology and Botany specialisation in their practice teaching.

Teacher trainees with Botany specialisation have more difficulty in method of teaching than Zoology specialisation teacher trainees during practice teaching.

2.4. There is no significant difference between Natural Science teacher trainees with teaching experience and without teaching experience in their problems during practice teaching programme.

2.5. There is no significant difference in problems like school selected for practice teaching, lesson planning, method of teaching, nature of teaching, pupil response, classroom management and discipline, and evaluation in teacher trainees from rural training colleges and urban training colleges during practice teaching programme. There is significant difference in the teaching aid and biology text among Natural Science teacher trainees from rural training colleges and urban training colleges during practice teaching.

Natural Science teacher trainees from urban training colleges have more difficulty in teaching aid and biology text than trainees from rural training colleges during practice teaching.

2.6. There is no significant difference between Natural Science teacher trainees who selected rural schools and urban schools in their problems during practice teaching programme.

2.7. There is no significant difference between Natural Science teacher trainees who selected government schools and aided schools in their problems during practice teaching programme.
2.8. There is no significant difference between Natural Science teacher trainees with age group 21 - 25, 26 - 30 and above 30 in their problems during practice teaching programme.

2.9. There is no significant difference in problems like school selected for practice teaching, lesson planning, method of teaching, pupil response, and evaluation between Natural Science teacher trainees from aided, unaided and university colleges during practice teaching programme. There is significant difference in nature of teaching among Natural Science teacher trainees from aided, unaided and university colleges during practice teaching. Natural Science teacher trainees from unaided training colleges have more problems in nature of teaching than trainees from aided colleges and university colleges. There is significant difference in problem like teaching aid and biology text among teacher trainees from aided, unaided and university training colleges during practice teaching. Natural Science teacher trainees from unaided colleges have more problem in teaching aid and biology text than trainees from aided and university training colleges. There is significant difference in problems like classroom management and discipline among trainees from aided, unaided and university colleges. Trainees from aided colleges have more problem in classroom management and discipline than unaided and university training colleges during practice teaching programme.

2.10. There is no significant difference in problems like lesson planning, method of teaching, pupil response, teaching aid and biology text, classroom management and discipline, and evaluation between Natural Science teacher trainees those who selected boys, girls and mixed schools for practice teaching programme. There is significant difference in problems related with schools selected for practice teaching among Natural Science teacher trainees those who selected boys, girls and mixed schools.
Natural Science teacher trainees those who selected boys schools face more difficulty than mixed schools and girls schools during practice teaching programme.

3.1. FINDINGS BASED ON THE OPINION AND SUGGESTIONS OF STUDENT TEACHERS WITH RESPECT TO THE PRACTICE TEACHING PROGRAMME

1. The study showed that majority of the student teachers of Natural Science are not satisfied with the existing systems of practice teaching programme.

2. Most of the schools have library, laboratory and audiovisual equipments. But student teachers are of opinion that the school authorities do not permit them to use the audiovisual aids during practice teaching period.

3. Lack of time during practice teaching period is one of their major problems cited by student teachers. Majority of the student teachers suggested that the period of practice teaching must not be less than three months. It should be conducted in two times giving a gap of one month.

4. The student teachers are of opinion that there should be a healthy relationship between the training college and schools selected for practice teaching.

5. The overcrowded classrooms in schools are the major problem for student teachers. About 99% of student teachers are not satisfied with the activity method of teaching, they implemented in overcrowded classrooms. Activity method is not used in true sense is a major problem of student teachers and they are of the opinion that reduce the number of students in each division for practicing the teaching skills by student teachers effectively.
6. Trainees are of opinion that the educational backwardness of children reflects in the classroom also. Some students do not show any response to student teacher’s questions. Encouraging teacher-pupil relationship is difficult due to the unhealthy relationship of training college and schools selected for practice teaching.

7. Most of the schools selected for practice teaching do not have separate room for the student teachers. They would like to have separate room for reading books and writing lesson plans.

8. Major psychological, sociological and philosophical theories written in lesson plan are the major problem. The student teachers are of opinion that theories of learning should study before practice teaching and core subject teachers must correlate the theories with the actual practice in teaching.

9. The supervising teachers must visit the schools at least four times to evaluate the progress of teaching. They should supervise the whole class of the trainee and give remedial measures for improvement. Majority of the student teachers are of opinion that they do not have opportunity to discuss the doubts with their supervising teachers.

10. Extra duties other than teaching is a problem for some student teachers.

11. The student teachers are of opinion that some school teachers are not cooperative and they do not give any suggestions for the improvement of teaching.

5.03. INTERPRETATIONS

In general Natural Science teacher trainees have difficulty in preparing lesson plans based on their topics. This may be due to lack of proper instruction based on methodology of construction of less plans or may be due to improper knowledge about the content area. In the lesson plan there are
three columns and the third column is based on the educational theory included in the learning experience. This can only be written with the thorough knowledge of philosophy, sociology, psychology and technology. Along with these reasons lack of interest, examination oriented educational system may also affect the problem of lesson planning.

Female teacher trainees have comparatively more problems than male teacher trainees during practice teaching. This may be because of male students have more ability to adjust with different situations than females. Male teacher trainees have difficulty in preparing lesson plans, this may be due to lack of interest. But female teacher trainees have less problem in lesson planning.

Female trainees have more difficulty in method of teaching. This may be due to shyness or fear.

Natural Science teacher trainees with minimum educational qualification have a lot of problem in evaluation. This may be due to difficulty in preparation and construction of achievement test. They have much problem in framing questions in lesson plan for formative evaluation. Framing questions based on instructional objective is a very difficulty task. Teacher trainees with high educational qualification have lot of problem in pupil response. This may be because of framing higher objective questions and student finds it difficult to understand this type questions.

Natural Science teacher trainees with age group between 21 and 25 have more problems in schools selected for practice facility. This may be because of adjustment problems of these group of trainees.

The trainees with age between 26 and 30 have more problems in lesson planning and teacher trainees above 30 have more problems in evaluation and
few difficulties in classroom management and discipline. This is because of their maturity they have the ability to control the learners in a classroom.

Teacher trainees with teaching experience have more difficulty in lesson planning. Because, in school, they are not preparing lesson plans for classroom teaching and they usually follow lecture method of teaching. The inexperienced teacher trainees have more difficulty in classroom management and discipline. This is because of inexperience in controlling the classrooms of adolescents.

Teacher trainees from rural training colleges have lots of problem in method of teaching. These trainees have to select most rural schools. Rural schools and training colleges have lack of infrastructure facilities and overcrowded classrooms. The students from poor socio-economic status come to these schools and college for learning.

The Natural Science teacher trainees from urban training colleges have much difficulty in teaching aids and using biology text. Trainees from training college use costly materials for preparing teaching aids. Because of economic factor they try to reduce the use of audiovisual aids in the classrooms.

Teacher trainees from unaided training colleges have more difficulty than aided and university colleges during their practice teaching programme. Trainees in unaided colleges are mostly having low achievement in subject and most them are come under management quota. This problem may be due to the inadequate facilities provided to them in the schools and colleges, and frequent transfer of teachers.

Natural Science teacher trainees who selected government schools have more problems than those who selected aided schools for practice
teaching. This may be become of lack of infrastructure facilities in government schools.

More guidance from the part of supervising teachers and more demonstration lessons by experts may help them to solve their problems.

Teacher trainees who choose boys' schools have comparatively more problem than girls and mixed schools during the practice teaching. This is because of the reason that for controlling adolescent boys are more difficult than girls. In boys' school they exhibit much freedom than mixed school. The female teacher trainees felt more difficult than girls. The female teacher trainees felt more problems to adjust with the boys' schools. A good administration of classroom activities, good planning and efficient classes will minimize their problems to a certain extent.

There is difference in method of teaching among male and female teacher trainees. Female teacher trainees have more difficulty in method of teaching than male. This is due to lack of self-confidence of female teacher trainees in practicing teaching skills in actual classroom situation.

Problems in asking questions and evaluation for male teacher trainees may be due to their lack of subject matter competency resulting from poor reading, lack of adequate advance preparation etc. Problem in appropriate method of teaching may be due to the reason that they are not familiar with the textbooks before using it in the classrooms.

Problem in selection and preparation of audiovisual aids may be due to lack of knowledge in preparing and using the teaching aids. Problems related with biology textbooks by teacher trainees may be due to factual errors in biology textbook that may cause difficulty in teaching.
Problem in writing lesson plans by Natural Science teacher trainees may be due to their educational backwardness and lack of library facilities. Proper understanding of content and skill in anticipating teacher-pupil activities are the essential prerequisites for lesson planning.

Natural Science teacher trainees from rural training colleges experienced more difficulty in practice teaching. Poor economic and educational background of student teachers may also contribute to this problem. Poor, cultural and educational background of the locality may be the reason behind this. For student teachers belonging to rural training colleges, their only resource area is their own colleges where facilities are to be improved much.

The difficulty is more in teacher trainees with minimum qualification are mainly due to their inexperience, lack of subject matter competency and poor development of teaching skills. The supervising teachers must give special attention and proper guidance to the student teachers having minimum educational qualifications.

Student teachers with no previous experience have more problems. This may be due to the fact that they are facing the classes for the first time. It is difficulty for them to keep the students to adjust with other students in the class and they are unable to determine the causes of misbehaviour of their students. Failure in giving reward and punishments, and poor performance are also the problems for them. A good motivation and cooperation from supervising teachers and experienced teacher trainees may minimise the problems to a certain extent. Particular attention may paid to the preparation and organisation of lessons. They are in need of more demonstration classes and shall be provided with more opportunities to take criticism lessons special attention must be given for developing their teaching skills.
The teacher trainees should promote self-discipline by giving group activities and individual attention. Child study programmes and case study programmes will help to find the causes of disciplinary problems. As a teacher trainee he/she has to face certain limitations in maintaining classroom discipline, most of the teacher trainees are of opinion that the supervising teachers suggestions are not practical in dealing with the students. Good motivation may minimise the disciplinary problems.

Before going to the class the trainees must be well prepared in every aspect of the lesson. Small group activities may also be useful for exchanging ideas and to learn to adjust with other children. Assignments given may be within the standard of pupils.

5.04. RECOMMENDATIONS

On the basis of the findings, the following suggestions were made with a view to implement programme for the improvement of practice teaching programme.

1. Library and laboratory facilities are to improve and the student teachers must be given opportunities to use them properly.
2. Teacher trainees must be given opportunity to participate in the working of the school especially in the curricular and co-curricular activities.
3. The teachers of the schools selected for practice must give proper guidance and full cooperation to the teacher trainees in planning the lessons and developing necessary teaching skills.
4. The teachers of training colleges must visit the school at least four times during the practice teaching period.
5. Student teachers must be given opportunities to observe the classes of senior teachers in the school.
6. There must be a healthy relationship between the schools and training colleges.
7. The schools selected for practicing teaching should have a separate room for student teachers.

8. The school authorities must provide sufficient periods for teaching the prescribed portions in time.

9. The supervising teacher must prepare the student teachers thoroughly before the commencement of practice teaching programme.

10. The supervising teachers must understand the individual difference of teacher trainees and guide them properly.

11. The supervising teachers make sure that the facilities available in the school are adequate or not for teaching practice.

12. The duration of practice teaching period must be increased from the present system for the development of necessary teaching skills and to acquire the knowledge in the organisation of schools.

13. The supervising teachers must provide adequate instructions, effective demonstration classes and classroom discussions etc., before the commencement of practice teaching programme.

Problems related with schools selected for practice can be minimised by giving freedom to select schools for practicing and time allotted to practice teaching should be increased for the development of teaching skills, providing maximum facilities and cooperation from school authorities within available time may solve many of these problems to some extent. Care must be taken in selecting suitable school.

Problems related to lesson planning can be minimised by wide ranging of textbooks, related to biology curriculum, general reference books and reading newspapers regularly may help the teacher trainees in preparing lesson plans. Proper guidance on the part of supervising teacher and cooperation of classmates will minimise these problems to certain extent.
Analysis based on the problems related to methods of teaching shows that Natural Science teacher trainees face the problem of adopting all the methods of teaching, motivating the students, correlating the biology content with other subjects and adopting interesting methods. The supervising teachers must be made aware of the fact that the different methods and techniques of teaching should be taught in training colleges before the practice teaching programme. They should be provided with proper guidance for developing skills in adopting interesting methods of teaching.

Problems related to nature of teaching can be minimised to some extent. The college authorities must avoid low standard and overcrowded schools for practice teaching programme. The supervising teacher must provide opportunities to observe the classes of expert teachers in the form of demonstration lessons. Opportunities are to be provided to take more criticism lessons and proper guidance on the part of supervising teacher may help them to solve these problems.

For minimising the problems related to pupil’s response the supervising teachers must give more demonstration classes and guidance in asking questions properly. This problem can be effectively solved if the cooperation of experienced teachers of school selected for practice teaching is enlisted in this manner. The teachers must give them correct guidelines to develop skill in questioning and handling the pupil’s questions properly. Opportunities must have provided to teacher trainees to observe the classes of experienced teachers.

Analysis based on the problems related to teaching aid and biology textbook showed that the student teachers face many problems related with this dimension. Lack of knowledge in preparing and using the teaching aids may be the reason behind this. Proper guidance on the part of supervising teachers may solve these problems to some extent. The teacher trainees
through their well-planned lessons may try to make up the drawbacks of the textbooks. The supervising teachers must help the student teachers in preparing low cost teaching aids suitable to the pupil's understanding level.

For solving the problems related to classroom management and discipline steps must be taken to observe the classes of experienced teachers so that they can develop the skill in dealing with the heterogeneous group in the class.

Analysis on the basis of the problems related to evaluation revealed that the student teachers face the problems in giving suitable assignments, correcting assignments, preparing appropriate test items for evaluation. This is a skill and the student teachers must be given constant practice to develop this skill with the help of supervising teachers. Writing and rewriting the different items under different instructional objectives will solve the problem to some extent. The supervising teachers must provide proper guidance in preparing suitable assignments. The student teachers must observe the demonstration classes of expert teachers for understanding the different types of assignments.

The findings of the present study will be largely tentative and should be used as the starting point for more adequate and extensive research. It is also hoped that the findings of the study would help the teacher educators concerned to understand the problems during practice teaching period and also to develop a positive attitude towards the existing practice teaching programme.

The present investigation is meant to understand the problems of student teachers of natural science during their practice teaching period. The focus of the study has been mainly on educational aspect and not on diagnostic or medical aspects. It is hoped that the findings of the study would be useful in providing guidelines to academicians and administrators to
recognize the existing programme of practice teaching. The present investigations bring to light various aspects of practice teaching programme of B.Ed. trainees both merits and shortcomings. In the light findings, the study has arrived at certain suggestions regarding the possible ways and means to reshape the existing system of practice teaching programme. This will be useful for curriculum reformers to get an insight into the teacher-training programme.

5.05. SUGGESTIONS FOR FURTHER RESEARCH

The findings of the present study made the investigator to propose certain suggestions for further study in this field. The following being some of the suggestions in this context.

1. The study can be replicated on different subjects other than Natural Science.
2. The present study may be extended to the student teachers of other universities in Kerala and other states.
3. The study can be repeated by correlating it with attitudes and intelligence of teacher trainees.
4. A study can be conducted by correlating the teacher abilities with their problems of teaching.