CHAPTER-V

FINDINGS, EDUCATIONAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

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5.0 INTRODUCTION

In the previous chapter, analysis, interpretation and discussion of results have been given. Based on the results, conclusions were drawn. Keeping in view the major conclusions, implications of the study have been looked into. This Chapter includes the findings, conclusions drawn, educational implication and suggestions for further research.

5.1 FINDINGS

On the basis of the statistical analysis and interpretation of data the present study reveals the following findings:-

1. The proportion of 'teacher talk' in case of Low Competency Mathematics teachers was significantly higher than that of High Competency Mathematics teachers. The extent of 'pupil talk' was found to be higher in the classroom managed by High Competency Mathematics teachers than that of Low Competency Mathematics teachers.

2. The periods of 'silence' or 'confusion' were found to be comparatively more in the classes of Low Competency Mathematics teachers than in case of High Competency Mathematics teachers.
3. 'Accepting the feelings of students' was found to be more in the case of High Competency Mathematics teachers than Low Competency Mathematics teachers. 'Praising and encouraging' the pupils have been found more in case of High Competency Mathematics teachers as compared to Low Competency Mathematics teachers.

4. The High Competency Mathematics teachers were found to make more use of the ideas of pupils and try to build and develop their discussion on ideas suggested by pupils. The Low Competency Mathematics teachers on the other hand discouraged their pupil from expressing or suggesting any idea.

5. It has been found that Low Competency Mathematics teachers spent more than 79.81% of the total interaction time in lecturing whereas High Competency Mathematics teachers spent about 35.7% of the total interaction time in lecturing inside the classroom.

6. The High Competency Mathematics teachers were found to criticize the student less than the Low Competency Mathematics teachers.

7. The tendency of asking questions on the part of the High Competency Mathematics teachers was high. It was very less in case of Low Competency Mathematics teachers.

8. The High Competency Mathematics teachers were found to encourage and appreciate more of 'pupil talk initiation' and 'pupil talk response' as compared to Low Competency Mathematics teachers.
9. 'Indirect teacher talk' was found to be significantly high in case of High Competency Mathematics teachers.

10. The High Competency Mathematics teachers were found to exhibit greater tendency of encouraging the pupil initiation as compared to Low Competency Mathematics teachers. The teacher-pupil interaction was found to be on higher side in case of class conducted by the High Competency Mathematics teachers, whereas Low Competency Mathematics teachers seemed to restrict the student participation in the classroom. The High Competency Mathematics teachers in comparison to Low Competency Mathematics teachers were found to be significantly higher on classroom interaction behavioural ratios viz; Teacher response ratio (TRR), Teacher question ratio (TQR), pupil steady state ratio (PSSR), Instantaneous teacher response ratio (ITRR), Indirect/direct ratio and Instantaneous teacher question ratio (ITQR). However, they were found significantly lower on vicious circle than Low Competency Mathematics teachers.

11. It was found that the teaching of High Competency Mathematics teachers was more content-oriented than the teaching of Low Competency Mathematics teachers.

12. It was found that High Competency Mathematics teachers in comparison to Low Competency Mathematics teachers accept; clarify; praise and encourage and develop the ideas expressed by the pupils inside the classroom. The High Competency Mathematics teachers as compared to Low Competency Mathematics teachers were found to be smiling, expressing a
jolly mood, patting the students, move to each student inside the classroom for paying individual attention during the conduct of their class.

13. The High Competency Mathematics teachers were found not to experience blushing during the run of the classroom lecture. They were found not to be habitual of slapping their students in presence of other students in the classroom.

14. The Low Competency Mathematics teachers in comparison to High Competency Mathematics teachers were found to move frequently outside the classroom and also peep outside through the windows during the conduct of the class. The Low Competency Mathematics teachers as against the High Competency Mathematics teachers were found to get irritated easily and snatch the papers from students. They also showed greater tendency of kicking the student inside the classroom. They were found to yell, turn pale, perspire, stumble with benches and desks during the conduct of their class.

15. On the basis of student evaluation it was found that High Competency Mathematics teachers were impartial in giving rewards and punishments and gave fair treatment to their students. It was found that High Competency Mathematics teachers as against Low Competency Mathematics teachers exhibit a greater tendency of giving identical attention to all the students inside the classroom. They also gave proper guidance and advice to their students.
16. The Low Competency Mathematics teachers were found to be biased in dealings with their students than High Competency Mathematics teachers as reported by the students. It was also reported by the students that the High Competency Mathematics teachers provided their own books and learning materials to them and treated them as their friends.

17. The High Competency Mathematics teachers in comparison to Low Competency Mathematics teachers were found to be aware about the specific needs of each student in the class and commended greater respect from their students. It was found that High Competency Mathematics teachers are not compromising their integrity and honesty in the classroom. It was also found that High Competency Mathematics teachers did not show any kind of nepotism and favoritism and took a genuine interest in student affairs.

5.2 CONCLUSIONS

1. Thus the results presented so far reveal that High Competency Mathematics teachers as compared to Low Competency Mathematics teachers have been found to be higher (in terms of %age occurrence) on 'accepting the feelings of students', 'using more and more acts of praising', 'encouraging the students', accepting and clarifying their ideas', and 'asking more and more questions'. The High Competency Mathematics teachers have also shown more flexibility in communication while handling classes and have put more emphasis on subject matter. There was also a tendency in the High Competency Mathematics teachers to be less critical. It was found that students admired
and respected well the Mathematics teachers who were less critical, less nagging, who reacted to pupils ideas with praise and encouragement and who made use of non-treating jokes in the class and who had a sense of humour.

2. The High Competency Mathematics teachers have more tendency to praise or integrate ideas and feelings in the class discussion. The instantaneous teacher question ratio was found higher in High Competency Mathematics teachers as compared to Low Competency Mathematics teachers, thereby indicating that High Competency Mathematics teachers have shown more tendency to respond to 'pupil talk' with question based in his own ideas, compared to his tendency to lecture.

3. The differential patterns of classroom interaction in case of two groups of High Competency and Low Competency Mathematics teachers show that the flow of interaction is very limited in case of Low Competency group of teachers where as in case of High Competency , the flow is continuous, comprehensive , sequential and interdependent . The classroom interaction in case of Low Competency groups of teachers is mostly dominated by lecturing with less or no emphasis on the other important dimensions of interaction. The Low Competency teachers tend to criticize more thereby discouraging the student participation in the class discussion.

4. The High Competency Mathematics teachers in comparison to their Low Competency counterparts have been found smiling, expressing a jolly mood, patting the students and moving to each student inside the classroom for paying individual attention
during the conduct of their class. The High Competency Mathematics teachers in comparison to Low Competency Mathematics teachers have also been found not to experience blushing slapping the students, smoking inside classroom and moving out of the classroom during the conduct of their class. On the other hand, Low Competency teachers were found to have more inclination towards kicking the students, snatching papers from them, getting irritated easily, turning pale, yelling, stumbling and proceeding towards windows during the conduct of the class. The Low Competency teachers exhibit negative or unsuitable acts in the classroom to maximum total negative Non-verbal behavioural dimensions observed by the investigator inside classroom where as in case of High Competency teachers the proportion was negligible only.

5. On the basis often evaluation it was found that High Competency Mathematics teachers as against Low Competency Mathematics teachers were impartial in giving rewards and punishment and gave fair treatment to their students. It was also found that High Competency teachers exhibit greater tendency of giving identical attention to all the students inside the classroom. They also gave proper guidance and advice to their student, as reported by the sample students. The Low Competency teachers were found biased in their dealings with students. It was found that High Competency teachers are not compromising their integrity and honesty in the classroom. It was also found that High Competency teachers have not shown any kind of nepotism and favouritism and they take a genuine interest in student affairs. As reported by the sample students,
the High Competency teachers provided their own books to their students. The High Competency teachers in comparison to the Low Competency teachers were found that specific needs of each student in the classroom and commanded greater respect from their students.

5.3 EDUCATIONAL IMPLICATIONS

A perusal of the present study makes it evident that the investigator attempted to break new ground in research on teaching. Conclusions of the present study reveal some important educational implications for Mathematics teachers, teacher educators, educational administrators, school authorities and parents. The present study reveals that there is a significant difference in the behaviours of High Competency and Low Competency Mathematics teachers. The knowledge of general interaction patterns of High Competency Mathematics teachers will help the teacher educators, planners and policy makers to redirect their pre-service teacher training and in-service teacher training towards accomplishing the desirable interaction patterns inside the classroom.

Teacher's personal qualities, mastery over the subject matter, methodology of teaching and some other pedagogical skills are undoubtedly correlates of High Competency teaching, but what a teacher does inside the classroom is equally important. Therefore, a classroom is a place where interactional patterns emerges on the basis of 'presage-process-product' dimensions. Thus, analysing classroom interactional patterns is perhaps the best way to understand what a teacher is? What he does in the classroom? And what is the resultant impact on the quality of the product? The present study is
an attempt to determine the differential interaction patterns of High Competency and Low Competency Mathematics teachers. This has greater implications for in service and pre-service teacher training programme.

But in order to make the teaching High Competency and to create a suitable learning environment in the schools the Mathematics teachers should be given proper orientation or in-service training from time to time so they may add High Competency teacher behaviours to their behavioural repertoire. For this, refresher courses and workshops should be organized by teacher educators most frequently so that different ways can be suggested to the teacher to generate the desired level of learning among the students. In these courses, proper guidelines should be provided to the Mathematics teachers about the High Competency classroom behaviour of students and Mathematics teachers so that they can encourage the students to develop desirable behaviour in the classroom.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

Due to paucity of time and resources at the disposal of the investigator, all the aspects of the problem cannot be expected to deal with. Therefore, the present study opens up certain avenues for further research which are briefly listed below:

1. In the present investigation the sample was limited to Mathematics teachers teaching 11th and 12th class only. It would be useful to study the interaction of verbal and non-verbal teaching behaviour on the sample drawn from different age group and from different disciplines.
2. Studies on larger sample may be conducted for further evidence in order to probe the possible correlates of teacher effectiveness in terms of classroom teacher behaviour. Such studies may help in developing suitable strategies for modifying teacher classroom behaviour.

3. Interaction analysis may be introduced into the internship programmes of Teacher training Colleges and in evaluating teaching competence in various disciplines.

4. A study may be conducted to compare the interaction patterns of classroom at various academic streams of student teachers (i.e. arts, science, language and commerce) at different levels of training programmes (i.e. elementary training and secondary training).

5. Interaction analysis tends to extend its influence in the areas such as programmed instruction, institutional environment, political behaviour and communal riots and interpersonal dynamic. Thus interaction analysis studies seem to suggest expanding and exciting possibilities in the fields of research, programme development and training in India.

6. A detailed study on relationship between teacher influences. Pupil attitudes and achievement can be taken for different subjects.

7. The impact of teacher training programme presently conducted at various levels on teacher classroom behaviour may also be studied. For this purpose a comparison may be drawn between
trained and untrained Mathematics teachers on different
dimension of interaction analysis pattern.

8. A study may be conducted to compare the interaction patterns of classroom at various academic streams of student teachers (i.e. arts, science, language and commerce).

9. Interaction analysis may be introduced into the internship programmes of Teacher training Colleges for continuous and comprehensive feedback for improving teaching competencies.

10. Interaction analysis may be introduced into the internship programmes of Teacher training Colleges for comprehensive feedback for improving teaching competencies for different streams of student teachers (i.e. science, arts, language and commerce).

11. A study may be conducted to compare the interaction patterns of classroom at various levels of teaching i.e. primary, secondary and higher.

12. A study may be conducted to compare the interaction patterns of teachers in classroom at various levels of teaching i.e. primary, secondary and higher for high achieving and low achieving teachers.

The list which has been given above is, however, not exhaustive, but illustrative. There are vast areas in this field which have so far remained unexplored and any attempt to make to delve deep in them may both be rewarding and instructive.