CHAPTER VI

SUMMARY AND CONCLUSIONS

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CHAPTER VI

SUMMARY OF PROCEDURE, CONCLUSION AND SUGGESTIONS

Reflective teachers are able to apply educational principles and techniques with framework of their own experiences and drastic change for improvement in teacher education. Thus reflection moves from stage of uncertainty, doubt and perplexity to a goal of mastering the problematic situation when one finds materials that will resolve the dilemma. Hence reflection is preceded by experiences. The experience consists of total response of a person to a situation or event. Teacher accountability has become a simple extension of objectives, testing and evaluation. Teachers are responsible for the quality of their instruction and progress of their students. This chapter of research report gives an overview of important aspect of teacher accountability and reflective teaching among secondary school teachers and it’s conclude with interpretations and findings, suggestions for improvement and educational implications of the study.

6.1 Study in Retrospect

The various aspect of the present study relating to the objectives, hypothesis, variable and methodology Adapted are given below.
6.1.1 Re-statement of the problem

The present study is entitled as ‘Developing Certain Strategies for better Teacher Accountability and Reflective teaching among Secondary school Teachers in Kerala’.

6.1.2. Variables enacted for the study

In an experimental study, the investigator manipulates are independent variable and dependent variables. In this study the, the teacher accountability and reflective teaching and the select strategies for enhancing teacher accountability and reflective teaching were SCAMPER Technique, SWOT Analysis, Brain Based Learning, and Mind Mapping and Prevailing Activity Oriented Approach were independent variables and performance on Social Science are dependent variables.

6.1.3. Hypotheses set for the Study

The following hypotheses were formulated for the investigation.

- There will be significant difference in the extent of Teacher accountability among secondary school teachers for the whole sample and sub samples based on gender, length of teaching experience, locality and type of management of institutions.

- There will be significant difference in the extent of Reflective teaching among secondary school teachers for the whole sample and sub samples based on gender, length of teaching experience, locality and type of management of institutions.
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- There will be significant difference in the effectiveness of Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER) Technique and Strengths, Weakness, Opportunities and Threats (SWOT) Analysis among secondary school teachers for the whole sample and sub samples based on gender.

- There will be significant difference in the effectiveness of Brain Based Learning and Mind Mapping Learning over the Prevailing Activity Oriented Approach of teaching among teachers at secondary level.

- There will be significant difference in the effectiveness of Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER) Technique and Strengths, Weakness, Opportunities and Threats (SWOT) Analysis over the Prevailing Activity Oriented Approach among teachers at secondary level.

- There will be significant difference in the effectiveness of Brain Based Learning and Mind Mapping Learning among secondary school teachers for the whole sample and sub samples based on gender.

6.1.4. Objectives of the Study.

Formulation of the problem is like the input. Methods, procedure, data collection, analysis are the process of the study and the output is the quality of the content of the research report. The formulation of the objectives of the research summarize what is to be achieved by the study in general terms.
and what will do in the study, where and for what purpose, it should be closely related to the research problem.

The objective pursued will affect the tools and technique employed for the analysis and indicates what are doing overall in an investigation. The investigator formulated following objectives.

- To explore the extent of teacher accountability among secondary school teachers for the whole sample and sub samples based on gender, length of teaching experience, locality and type of management of institutions.

- To detect the extent of reflective teaching among secondary school teachers for the whole sample and sub samples based on gender, length of teaching experience, locality and type of management of the institutions.

- To select the specific strategies for better teacher accountability and reflective teaching among teachers at secondary level.

- To test the effectiveness of the select teaching strategies for Teacher Accountability based on Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER) Technique and Strengths, Weakness, Opportunities and Threats (SWOT) Analysis among teachers at secondary level.

- To compare the effectiveness of Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER) Technique and Strengths, Weakness, Opportunities and Threats (SWOT) Analysis over the Prevailing Activity Oriented Approach of teaching on the performance
in Social Science on the basis of gender, locality and type of management of institution.

- To test the effectiveness of the select teaching strategies for Reflective Teaching based on Brain Based Learning and Mind Mapping among teachers at secondary level.

- To compare the effectiveness of Brain Based Learning and Mind Mapping over the Prevailing Activity Oriented Approach of teaching on the performance in Social Science on the basis of gender, locality and type of management of institutions.

- To find out the extent of strategy performance of secondary school teachers based on Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER) Technique; Strengths, Weakness, Opportunities and Threats (SWOT) analysis, Brain Based Learning and Mind Mapping.

- To find out the extent of the strategy evaluation on the performance of secondary school teachers based on Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER) Technique, Strengths, Weakness, Opportunities and Threats (SWOT) analysis, Brain Based Learning and Mind Mapping.
6.1.5. Methodology in brief.

The present study was intended to investigate the teacher accountability and reflective teaching through the teaching of certain learning strategies. Since the study was entitled as “Developing Certain Strategies for Better Teacher Accountability among Secondary School Teachers in Kerala”. The investigator adopted the survey cum experiment method for the study. Survey is the fact finding. It is a method of research involving collection of data directly from a population or sample. To find out the teacher accountability the investigator adopted survey method and collecting the data from the different districts. For developing certain strategies for better teacher accountability, researcher had adopted experimental method for the study.

6.1.6. Materials and Tools used for the Study

1. Prepared and Standardized Scales

(Sumamol, N. S; & Prof. (Dr ) A. Sudharma, 2008)

- Teacher Accountability Analysis Scale (TAAS).
- Reflective Teaching Analysis Scale (RTAS).

2. Lesson Designs based on Select Strategies

(Sumamol, N. S; & Prof. (Dr ) A. Sudharma, 2008)

- Lesson Designs based on SWOT Analysis
- Lesson Designs based on SCAMPER Technique.
- Lesson Designs based on Brain Based Learning
● Lesson Designs based on Mind Mapping.

● Lesson Designs based on Prevailing Activity Oriented Approach

(Sumamol, N.S; & Prof. (Dr) A. Sudharma, 2008)

3. **Pre-Test and Post – Test.**

(Sumamol, N.S; & Prof. (Dr) A. Sudharma, 2008)

4. **Participant observation schedule based on Select Strategies**

(Sumamol, N. S; & Prof. (Dr ) A. Sudharma, 2008)

- Participant observation schedule based on SCAMPER Technique.
- Participant observation schedule based on SWOT Analysis.
- Participant observation schedule based on Brain Based Learning.
- Participant observation schedule based on Mind Mapping

5. **Strategy Evaluation Proforma based on selected strategies**

(Sumamol, N. S; & Prof. (Dr ) A. Sudharma, 2008)

- Strategy Evaluation Proforma – SCAMPER Technique
- Strategy Evaluation Proforma – SWOT Analysis
- Strategy Evaluation Proforma – Brain Based Learning
- Strategy Evaluation Proforma – Mind Mapping

6.1.7. **Analytical supports and technique employed**

The investigator analyzed the collected data using the appropriate statistical technique of the software (SPSS) 2010. The statistical technique was used for the study.
1. Percentage Analysis
2. Arithmetic Mean
3. Standard Deviation
4. Critical ratio
5. Analysis of C-Variance (ANCOVA)

6.2. Major findings

Through the analysis of the data obtained, the investigator arrived at certain findings and conclusions.

6.2.1. Modes of teacher accountability dimensions among secondary school teachers for total and sub samples.

The result reveals that, the percentages of extent of teacher accountability dimensions among secondary school teachers for total and sub samples. The high, average and low modes of personal accountability for total sample were 5%, 28% and 5% respectively for professional accountability were 3%, 22% and 3% respectively for social accountability among secondary school teachers for total sample were 5%, 24% and 5% respectively.

The high, average and low modes of personal accountability for male sample were 10%, 14% and 4% respectively for professional accountability were 12%, 13% and 5% respectively for social accountability among secondary school teachers for male sample were 16%, 22% and 4% respectively.
The high, average and low modes of personal accountability for female sample were 12%, 28% and 4% respectively for professional accountability were 10%, 26% and 5% respectively for social accountability among secondary school teachers for female sample were %7, 5% and 3% respectively.

The high, average and low modes of personal accountability for rural sample were 7%, 28% and 4% respectively for professional accountability were 4%, 22% and 3% respectively for social accountability among secondary school teachers for rural sample were 5%, 26% and 1% respectively.

The high, average and low modes of personal accountability for urban sample were 4%, 26% and 4% respectively for professional accountability were 6%, 24% and 3% respectively for social accountability among secondary school teachers for urban sample were 4%, 25% and 4% respectively.

6.2.2. Modes teacher accountability dimensions among secondary school teachers based on teaching experience.

The result shows that the modes of high, average and low teacher accountability dimensions for the sub sample based on the length of teaching experience. It was observed that the percentage modes of high, average and low personal accountability among the less experience teachers were 11%, 14%, and 11% respectively for moderately experienced were
8%, 13%, and 7% respectively for more experienced teachers were 8%, 17% and 10% respectively. The professional accountability among less experienced were 8%, 13% and 7% respectively for moderately experienced among were 10%, 10% and 6% respectively for social accountability of less experienced were 11%, 16% and 9% respectively for moderately experienced were 16%, 12% and 8% respectively for more experienced were 12%, 12% and 8% respectively. The table indicates that the average modes of dimensions are distributed more among secondary school teachers with regard to their experiences.

6.2.3. Modes of teacher accountability dimensions among government, aided and unaided schools.

The high, average and low modes of personal accountability based on government were 10%, 20% and 5% respectively for professional accountability were 12%, 20% and 8% respectively for social accountability among secondary school teachers in government were 5%, 14% and 6% respectively.

The high, average and low modes of personal accountability based on aided were 8%, 17% and 8% respectively for professional accountability were 10%, 25% and 6% respectively for social accountability among secondary school teachers in aided were 4%, 15% and 7% respectively.

The high, average and low modes of personal accountability based on unaided were 8%, 21% and 10% respectively for professional
accountability were 5%, 14% and 5% respectively for social accountability among secondary school teachers in unaided were 7%, 16% and 14% respectively.

6.2.4. Modes of reflective teaching dimensions among secondary school teachers for total and sub samples.

The result revels that, the percentage modes of reflective teaching dimensions among secondary school teachers for total and sub samples. The high, average and low modes of reflective teaching for total sample were 5%, 10%, and 5% respectively for reflective thinking were 4%, 12% and 5% respectively for professional reflection were 4%, 11% and 4% respectively for personal reflection were 6%, 10% and 4% respectively for social reflections for total sample were 5%, 12% and 3% respectively.

The high, average and low modes of reflective teaching practices among male and female teachers were calculated. The reflective teaching of high average and low among males were 4%, 12% and 4% respectively for reflective thinking were 5%, 11% and 4% respectively for professional reflections were 5%, 12% and 3% respectively for personal reflections were 5%, 11% and 4% respectively for social reflections among male teachers were 6%, 12% and 2% respectively.

The high, average and low modes of reflective teaching practices among female teachers were calculated. The reflective teaching of high average and low among males were 5%, 11% and 4% respectively for

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School of Pedagogical Sciences Mahatma Gandhi University

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reflective thinking were 4%, 13% and 3% respectively for professional reflections were 5%, 11% and 4% respectively for personal reflections were 6%, 10% and 3% respectively for social reflections among male teachers were 5%, 10% and 4% respectively.

The high, average and low modes of reflective teaching practices among rural and urban areas were calculated. The reflective teaching of high average and low among rural were 3%, 13% and 4% respectively for reflective thinking were 4%, 11% and 5% respectively for professional reflections were 4%, 13% and 4% respectively for personal reflections were 4%, 15% and 4% respectively for social reflections among rural teachers were 3%, 11% and 2% respectively.

The reflective teaching of high average and low among urban areas were 3%, 12% and 4% respectively for reflective thinking were 4%, 11% and 5% respectively for professional reflections were 3%, 13% and 4% respectively for personal reflections were 4%, 12% and 5% respectively for social reflections among rural teachers were 5%, 10% and 5% respectively.

6.2.5. Modes of reflective teaching dimensions among Secondary School Teachers based on teaching experience.

The result shows that the modes of high, average and low reflective teaching for the sub sample based on the length of teaching experience of secondary school teachers. It was observed that the percentage of high, average and low reflective teaching of less experienced
were 5%, 11% and 4% for reflective thinking 4%, 13% and 3% respectively for professional reflection were 5%, 11% and 4% for personal reflection 6%, 12% and 4% respectively for social reflection were 7%, 9% and 2% respectively.

The high average and less reflective teaching for moderately experienced were 6%, 10% and 4% respectively for reflective thinking 5%, 11% and 5% for professional reflection were 4%, 10% and 4% respectively for personal reflection 4%, 12% and 5% respectively for social reflection were 4%, 10% and 5% respectively.

The high average and more experienced reflective teaching were 7%, 9% and 4% respectively for reflective thinking 5%, 10% and 5% for professional reflection were 4%, 10% and 3% respectively for personal reflection 3%, 11% and 8% for social reflection were 3%, 10% and 8% respectively.

It is clear that the less, moderately and more experienced samples were concentrated in average modes of reflective teaching among secondary school teachers.


The findings reveal that high, average and low modes of reflective teaching of government were 3%, 14% and 3% respectively for reflective thinking were 3%, 13% and respectively for professional reflection were
4%, 11% and 2% respectively for personal reflection were 4%, 13% and 5% and social reflection among government were 4%, 14% and 2% respectively.

High, average and low modes of reflective teaching of aided were 4%, 13% and 3% respectively for reflective thinking were 3%, 13% and 3% respectively for professional reflection were 4%, 14% and 3% respectively for personal reflection were 3%, 13% and 4% and social reflection among aided were 4%, 13% and 3% respectively.

High, average and low Modes of reflective teaching of unaided were 3%, 13% and 5% respectively for reflective thinking were 4%, 12% and 4% respectively for professional reflection were 3%, 12% and 5% respectively for personal reflection were 3%, 13% and 4% and social reflection among government were 4%, 10% and 6% respectively.

6.2.7. Comparison of Effectiveness of SCAMPER Technique over Prevailing Activity Oriented Approach of teaching for Whole sample

Data of the adjusted means for the Post test scores of pupil in experimental group I and control group on the achievement in social Science for whole sample were calculated. The table value is 1.96 at 0.05 levels. The obtained t-value for total sample was 7.57 significant at 0.05
level. Hence there is significant difference in the post test scores of experimental group I and control group.

6.2.8. **Comparison of Effectiveness of SCAMPER Technique over Prevailing Activity Oriented Approach of teaching with regard to Male and Female teachers.**

Data of the adjusted means for the Post test scores of pupil in experimental group I and control group on the achievement in Social Science with regard to male and female teachers were calculated. The table value is 1.98 at 0.05 level. The obtained $t$-value 3.42 is for male teachers and 2.15 for female teachers. Both are significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group I (SCAMPER Technique) and control group (Prevailing Activity Oriented Approach).

6.2.9. **Comparison of Effectiveness of SCAMPER Technique over Prevailing Activity Oriented Approach Method of teaching with regard to Rural and Urban Schools**

Data of the adjusted means for the Post test scores of pupil in experimental group I and control group on the achievement in Social Science with regard to rural and urban were calculated. The table value is 1.98 at 0.05 level. The obtained $t$-value 2.33 for rural which is significant at 0.05 level and 0.56 for urban which is not significant at 0.05 level. Hence there is significant difference in the post test scores of experimental
group I (SCAMPER Technique) and control group (Prevailing Activity Oriented Approach).

6.2.10. Comparison of Post -test Scores of SCAMPER Technique over Prevailing Activity Oriented Approach of teaching with regard to Types of Management.

Data of Post test scores of pupil in experimental group I and control group on the achievement in Social Science with regard to Government, Aided and Unaided Schools were calculated. The table value is 1.65 at 0.05 level. The obtained t- value for government, aide and unaided were 3.12, 6.46 and 6.46 respectively. It is significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group I (SCAMPER Technique) and control group (Prevailing Activity Oriented Approach) with regard to government, aided and unaided schools.

6.2.11. Comparison of Effectiveness of SWOT analysis over Prevailing Activity Oriented Approach of teaching for Whole sample

Data of the adjusted means for the Post test scores of pupil in experimental group II and control group on the achievement in Social Science for whole sample were calculated. The table value is 1.96 at 0.05 level. The obtained t- value 5.70 is significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group II and control group.
6.2.12. Comparison of Effectiveness of SWOT Analysis over Prevailing Activity Oriented Approach of teaching with regard to Male and Female teachers.

Data of the adjusted means for the Post test scores of pupil in experimental group II and control group on the achievement in Social Science with regard to male and female teachers were calculated. The table value is 1.98 at 0.05 level. The obtained t- value 1.47 is not significant at 0.05 level. Hence there is no significant difference in the post test scores of experimental group II and control group.

6.2.13. Comparison of Effectiveness of SWOT Analysis over Prevailing Activity Oriented Approach of teaching with regard to Rural and Urban Schools

Data of the adjusted means for the Post test scores of pupil in experimental group II and control group on the achievement in social Science with regard to rural and urban were calculated. The table value is 1.98 at 0.05 .The obtained t- value 2.59 for rural and 5.58 for urban were significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group II and control group with regard to rural and urban schools.
6.2.14. Comparison of Post -test Scores of SWOT Analysis

over Prevailing Activity Oriented Approach of teaching

with regard to Types of Management.

Data of Post test scores of pupil in experimental group II and control
group on the achievement in Social Science with regard to Government,
Aided and Unaided Schools were calculated. The table value is 1.65 at 0.05
level. The obtained t- value for government, aide and unaided were 4.20,
2.14 and 4.36 respectively. It is significant at 0.05 level. Hence there is
significant difference in the post test scores of experimental group II
(SWOT Analysis) and control group (Prevailing Activity Oriented
Approach) with regard to government, aided and unaided schools.

6.2.15. Comparison of Effectiveness of Brain Based Learning over

Prevailing Activity Oriented Approach of teaching for Whole

sample

Data of the adjusted means for the Post test scores of pupil in
experimental group III and control group on the achievement in Social
Science for whole sample were calculated. The table value is 1.96 at 0.05
level. The obtained t- value 1.85 is not significant at 0.05 level. Hence there
is no significant difference in the post test scores of experimental group III
and control group.
6.2.16. Comparison of Effectiveness of Brain Based Learning over Prevailing Activity Oriented Approach of teaching with regard to Male and Female teachers.

Data of the adjusted means for the Post test scores of pupil in experimental group III and control group on the achievement in Social Science with regard to male and female teachers were calculated. The table value is 1.98 at 0.05 level. The obtained t-values for male and female teachers were 0.70 and 2.6 respectively. So the obtained female teacher’s were significant and male teachers were not significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group III (BBL) and control group (Prevailing Activity Oriented Approach) with regard to female teachers.

6.2.17. Comparison of Effectiveness of Brain Based Learning over Prevailing Activity Oriented Approach of teaching with regard to Rural and Urban Schools

Data of the adjusted means for the Post test scores of pupil in experimental group III and control group on the achievement in Social Science with regard to rural and urban were calculated. The table value is 1.98 at 0.05 level. The obtained t-values for rural and urban were 2.61 and 1.89 respectively. The obtained t-value of rural schools were significant and urban were not significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group III and control group with regard to rural schools.
6.2.18. Comparison of Post -test Scores of Brain Based Learning over Prevailing Activity Oriented Approach of teaching with regard to Types of Management.

Data of Post test scores of pupil in experimental group III and control group on the achievement in Social Science with regard to Government, Aided and Unaided Schools were calculated. The table value is 1.65 at 0.05 level. The obtained t- value for government, aide and unaided were 3.91, 0.40 and 0.79 respectively. The obtained t-value of government schools was significant at 0.05 level. aided and urban schools were not significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group III (Brain Based Learning) and control group (Prevailing Activity Oriented Approach) with regard to government schools.

6.2.19. Comparison of Effectiveness of Mind Mapping over Prevailing Activity Oriented Approach of teaching for Whole sample

Data of the adjusted means for the Post test scores of pupil in experimental group IV and control group on the achievement in Social Science for whole sample were calculated. The table value is 1.96 at 0.05 level. The obtained t- value 3.33 is significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group IV and control group.
6.2.20. Comparison of Effectiveness of Mind Mapping over Prevailing Activity Oriented Approach of teaching with regard to Male and Female teachers.

Data of the adjusted means for the Post test scores of pupil in experimental group IV and control group on the achievement in social Science with regard to male and female teachers were calculated. The table value is 1.98 at 0.05 level. The obtained t-value for male were 4.63, it is significant at 0.05 level and female were 1.31 is not significant at 0.05 level.

6.2.21. Comparison of Effectiveness of Mind Mapping over Prevailing Activity Oriented Approach of teaching with regard to Rural and Urban schools.

Data of the adjusted means for the Post test scores of pupil in experimental group IV and control group on the achievement in Social Science with regard to rural and urban were calculated. The table value is 1.98 at 0.05 level. The obtained t-value for rural were 5.5 is significant at 0.05 level and for urban were 3.03 significant at 0.05 level.

6.2.22. Comparison of Post-test Scores of Mind Mapping over Prevailing Activity Oriented Approach of teaching with regard to Types of Management.

Data of Post test scores of pupil in experimental group IV and control group on the achievement in Social Science with regard to Government, Aided and Unaided Schools were calculated. The table value
is 1.65 at 0.05 level. The obtained t-value for government, aide and unaided were 4.23, 3.38 and 4.41 respectively. It is significant at 0.05 level. Hence there is significant difference in the post test scores of experimental group IV (Mind Mapping) and control group (Prevailing Activity Oriented Approach) with regard to government, aided and unaided schools.

6.2.23. Analysis and interpretation of Participant Observation Schedule based on SCAMPER Technique.

From the result, it is clear that the introduction of SCAMPER Technique is clear and interesting with regard to male and female teachers were equals (50%) and provide relevant examples, orderly arrangement of questions, questions related to the SCAMPER Technique, questions increased curiosity among students and summarization of SCAMPER techniques are equals and defines each terms of SCAMPER Technique were 40% and 50%. It is also clear that the SCAMPER Technique is more effective among female teachers with compare male teachers.


The Result reveals that, the introduction of SWOT Analysis is effective, teacher discriminates each terms of SWOT Analysis, provide relevant examples, use teaching materials, teacher helps to the students to find out SWOT analysis from unit, Adapts inductive and deductive approach, control the class activity, evaluate contribution of each group,
summarize group performance and concludes in the term SWOT Analysis. From the result reveals that through the SWOT analysis evaluation contribution of each group were 100% and the least response of the participant observation of SWOT analysis, use of teaching material and conclude in the terms of SWOT analysis were 60% respectively.

6.2.25. Analysis and interpretation of Participant Observation

Schedule based on Brain Based Learning

From the result the introduction of BBL was effective (90%) and teacher provide natural learning situations (100%). The activities are interactive and student centered were 80%, learners were actively involved in teaching learning process (90%), sequential order of content presentation, positive feedback, use teaching aids and interest with learning were 60%, actively participation of students and teaching connected the daily life situation were 70%. From this table, it is clear that the effective use of BBL learning among male teachers were higher than female teachers.

6.2.26. Analysis and interpretation of Participant Observation

Schedule based on Mind Mapping

The result reveals that, the Mind mapping strategy was effective among male and female teachers. Brief introduction about Mind mapping, MM technique was more effective, to encourage student to shared ideas in groups, teacher provide an atmosphere to individual attempts and teacher students interaction were 90% and 80% of the teachers evaluate the groups
display. Students identify and understand the structure of the unit, editing of MM is done through teaching version were 80% observed.

6.2.27. Strategy Evaluation Proforma – SCAMPER Technique

The result reveals that, the total and sub samples of Strategy evaluation Proforma based on SCAMPER Technique. This Strategy has helped me to introduce the unit, it provides more ideas to me in teaching learning process, this techniques help to improve my skills in arranging, formulating and presenting facts in a systematic manner, it is an effective mode of testing the students understanding and knowledge in the subject, this technique in as advanced means of socialization and instruction involving students participation, preparation and interaction, it stimulates and tests the students power of higher order thinking, it provide to me resourcefulness, training and experiences of my teaching, I think that this method is suitable to the all levels of the students, this method is particularly successful and effective in teaching of Social Science, this strategy has helped me to analysis the problem context were 90% response from the strategy evaluation proforma to provide resourcefulness training and experience of teaching and this method is suitable to the all levels of students respectively.
6.2.28. Strategy Evaluation Proforma – SWOT Analysis

The result reveals that, the total and sub samples Strategy evaluation Proforma based on the SWOT Analysis. The SWOT Analysis technique has helped me greatly to focus on the unit, this strategy has helped me for arrange each content in a sequential order, this strategy has helped me to convey the content area to the learner easily, I could control my class in proper way, I could modify my teaching style by the use of this technique, I could create interest and curiosity among students, I could help the students in developing critical and analytical thinking, it helped to develop cultural and aesthetic values among students, I could evaluate students easily ,it is an effective teaching technique than the conventional method of total and sub sample. The response obtained from teachers for arranging the content in sequential order, control class in proper way and create interest and curiosity among students were found to be 90% and the least response were found to be 76% for students in developing critical and analytical thinking.

6.2.29. Strategy Evaluation Proforma – Brain Based Learning

The result shows that, the Strategy Evaluation Proforma based on the BBL. It helps to me introduce new unit, I could create a relaxed and comfortable learning for my students, it is an effective strategy for classroom activities, I could provide frequent feedback, I could establishing an effective communication with my learner, I got positive experience from this technique, Its encourage my profession, It is most effective teaching
method varies based on each students learning capacities, I got students support at the time of teaching learning process, I support always new teaching technique. The statements of Brain Based Learning like ‘I got students support at the time of teaching learning process’, ‘Its encourage my profession’, ‘I got positive experience from this technique ‘and It helps to me introduce new unit were 89 %, 82% and 80% respectively. The statement like ‘I support always new teaching technique’ were 60% and lest response of Brain Based Learning strategy evaluation. The responses of female teachers were higher than male teachers.


The table indicates that, the data of Strategy Evaluation Proforma based on Mind Mapping. MM technique has helped me to effective teaching, I could design learning around students interest, it encourage creative problem solving, It help immediate feedback, it helps to me for self-evaluation, effective strategy compared with other strategy, it helps to note taking, this technique is more useful for all unit, MM technique is clear and easy to follow, I could evaluate my class with peer group The responses of strategy evaluation of Mind Mapping more used by female teachers. Mind Mapping technique is clear and easy to follow for all teachers. MM technique has helped me to effective teaching, were 90% and “I could evaluate my class with peer group” were 68% and it is the least responses of
The Mind mapping strategy. From the table indicates that, the Mind Mapping strategy is more accepted by the female teachers than male.

6.3. Tenability of Hypotheses

The finding arrived through the analysis of data obtained led the investigator to arrive at certain conclusions on which are to be viewed in the light of limitations in the tool selected, in the sample chosen and the time available for investigation. Based on the findings, the tenability of the hypotheses formulated for the study has been tested.

Hypothesis 1

The first hypothesis states that ‘The extent of Teacher accountability among secondary school teachers for the whole sample and sub sample gender, teaching experience, locale and type of management of institutions is not up to the expected Level. The result revels that, the mode of teacher accountability dimensions among secondary school teachers for total and sub samples. From the table it is also visible that the distribution of teacher accountability dimensions among government, aided and unaided were distributed on average level. From the collected data, the investigator summarizes the teacher accountability among secondary school teachers were not up to the expected level.
Hypothesis 2

The extent of Reflective teaching practices among secondary school teachers for the whole sample and sub samples gender, teaching experience, locale and type of management of institutions is not up to expected level. The percentage of Modes of reflective teaching dimensions among secondary school teachers for total and sub samples. The percentage and Modes of reflective teaching, reflective thinking, professional reflection, personal reflection and social reflections for total sample were calculated. From the result it is also visible that the distribution of teacher accountability dimensions among government, aided and unaided were distributed on average level.

Hypothesis 3

The third hypothesis was that there will be significant difference in the scores on achievement of students taught using SCAMPER Technique and those taught using Prevailing method, when group is taken as a whole and when groups are taken in terms of male and female teachers.

The finding shows that this hypothesis is fully substantiated in view of the fact that the obtained t- value greater than the table value. The analysis of covariance also supports this fact. The result can be conclude that there is significant difference in the effectiveness of SCAMPER Technique based
teaching and prevailing methods method of teaching with regard to total sample and sub sample of male and female teachers. Hence the third hypothesis accepted.

**Hypothesis 4**

The fourth hypothesis states that, the select strategy SWOT Analysis is effective among Secondary School Teachers for enhance the teacher accountability. The hypothesis was that there will be a significant difference in mean scores of students taught using SWOT Analysis strategy and those taught using the prevailing method of teaching when group is taken as a whole and when group are taken in terms of gender.

The finding are support the hypothesis. The findings shows that hypothesis fully substantiated in view of the fact that the obtained t-value is greater than the table value. The analysis of covariance also supports this fact. The result can be conclude that there is significant difference in the effectiveness of SWOT Analysis based teaching and prevailing methods method of teaching with regard to total sample and sub sample of male and female teachers. Hence the fourth hypothesis accepted.

**Hypothesis 5**

The select strategy based on Brain Based Learning is effective among Secondary School Teachers for enhance the Reflective Teaching Practices. The investigator is also tries to find out the effectiveness of Brain Based Learning Technique for total sample and based of male and female
teachers and performance of the learners on achievement in Social Science.
The obtained t-value is not significant at 0.05 level with regard to total sample, male, urban and unaided school teachers. The result indicates that there is no significant difference between the means of the post-test scores of experimental group III and control groups. Hence it can be conclude that there is no significant difference in the effectiveness of Brain Based Learning based teaching and prevailing method of teaching with regard to total sample and male, urban and unaided.

**Hypothesis 6**

The select strategy based on Mind Mapping is effective among Secondary School Teachers for enhance the Reflective Teaching Practices.

The select strategy based on Mind Mapping is effective among Secondary School Teachers for enhance the Reflective Teaching Practices. The investigator is also tries to find out the effectiveness of Mind Mapping Technique for total sample and based of male and female teachers and performance of the learners on achievement in Social Science. The obtained t-value is significant at 0.05 level with regard to total sample and male and females’ teachers. The result indicates that there is significant difference between the means of the post-test scores of experimental group IV and control groups. Hence it can be conclude that there is significant difference in the effectiveness of Mind Mapping based teaching and prevailing method of teaching with regard to total sample and male and female teachers.
Hypothesis 7

The seventh hypothesis was tested and the performance of the selected strategies for enhancing teacher Accountability and Reflective Teaching Practices is differing among Secondary School Teachers. The investigator observed each strategy performance of the secondary school teachers’ through the participant observation to ensure the effectiveness of each strategy among secondary school teachers. The Participant Observation Schedule I used for SCAMPER Technique, Participant Observation Schedule II for SWOT Analysis, and Participant Observation Schedule III for Brain Based Learning and Participant Observation Schedule IV for Mind Mapping Learning. The performance of the selected strategies for enhancing teacher Accountability and Reflective Teaching Practices is differing among Secondary School Teachers.

Hypothesis 8

The Self Evaluation of the selected strategies for enhancing teacher Accountability and Reflective Teaching Practices is differing among Secondary School Teachers. The investigator collected the data from selected teachers to ensure the effectiveness of each strategy. This purposes investigator prepared strategy evaluation Proforma and it was filled by the selected teachers (each strategy sample). The result revels that the self evaluation of selected strategies for enhancing teacher accountability and
reflective teaching practices among secondary school teachers was different. Hence the hypothesis was accepted.

The analysis reveals that all selected strategies are effective in Social Science and the level of effectiveness of each strategy is different.

6.4. Educational implications of the study

Effective teachers must keep students involved in their lessons and schematic designing of instruction to maximize the student learning. Good teaching is a multifaceted quest to help students achieve mastery of the subject and able to transform their self concern and solve life problems that have real world applications. As a reflective practitioner with valuable insights into reflective and self monitoring efforts, the teacher change his orientation from a view of teaching a static, with simple formulas and cook book rules, to teaching as dynamic and ever changing, This change requires to teacher as a reflective practitioners learn all the can about teaching from both theory and practice. They teach and reflect on the practice they think deeply about the theory and practice of teaching. The reflective teaching then is the continued self monitoring of satisfaction with effectiveness. As reflective educational practices the teacher embraces their task and straight to improve the knowledge and skill in teaching.

The present study is intended to develop learning strategies design based on logical, systematic, coherent and progressive to enable the learners to develop and appropriate culture for learners effective at managing the
multidimensional positive learning environment, a well planed instructional technique that will captivate the interest of the student use of effective questioning and discussion techniques provide information on progressive are flexible responsive. Teachers in effective instructional transaction were consistency more successful in keeping students on task, spent more time personally new materials and independent practice, demonstrate higher expectations for students, differential activities in order to satisfy all types of learners to same extent.

1) Prevailing Activity Oriented Approach of instructional practices in social science education with the new instructional strategies for enhancing teacher accountability and reflective teaching. It is aiming at a better understanding of the processes underlying the acquisition and development of social science knowledge, creative and thinking skills, beliefs, attitudes, appreciation, admire and dispositions applied to the design of valuable and practical consideration of devices and powerful environment for enhancing teaching and learning of the subject. The findings of the study revealed that in order to create learning under the instructional practitioners, educational experts and policy makers must identify and develop new instructional strategy design for systematic presentation of content material which is effective to achieve the core outcomes of social science.

2) The extent of teacher accountability and reflective teaching among teachers, the investigator find out how far the teachers are accountable
and reflective practices in respect of teaching research, co-curricular activities, use of aids and equipments in classroom, Adaption of new strategies, utilization of local resources for the benefit of the students, community relations and development of student’s moral and ethical values. The extent of teacher accountability reveals, that the scope of personal, professional and social accountability of a teacher and how they affect the teaching and learning process and what way to improve their teacher effectiveness, and reflection in teaching and learning in a present atmosphere.

3) The experimental investigation of teacher accountability and reflective teaching strategies reflect how the pupils are progressing and what achievement they make in lesson, role of students to develop new ideas, testing their own conclusions, decision making and develop advanced levels of creative and critical thinking analysis among students through new strategies and to test the teacher’s ability to apply new strategies in one situation to new situations. The effective transaction of the instructional strategies design and it Adapt as self-motive device and create a quality teaching force include holding teachers accountable, it offers teachers the opportunity to show how they critique their work and evaluate their teaching effectiveness.

4) The study examine the effect of Substitute ,Combine, Adapt, Modify, Put to another use ,Eliminate and Reverse (SCAMPER) Technique and
Strength, Weakness, Opportunities and Threats (SWOT) Analysis strategies for enhancement of Teacher accountability and Reflective teaching that drives the enrichment of cognitive and strengthening creative, divergent thinking and make to an existing product to create a new one. These strategies improve teaching skills through reflection on what was taught and how well it was taught. The teacher can evaluate learner’s achievement and their lesson satisfactions are analyzed. The results reveal that, SWOT analysis and SCAMPER Techniques is effective than prevailing activity oriented approach. From the finding of the study it was proved that the students taught through strategies of teacher accountability like SWOT Analysis and SCAMPER Technique performed better than the student taught through Prevailing Activity Oriented Approach in many aspects.

5) The implementation of the Brain Based Learning (BBL) strategy increases the reflective teaching qualities among teachers and its developing potential power of the teaching and students also. The student’s higher level of creative and critical thinking capacity will develop from existing levels it uses to generate a wide variety of creative ideas concerning a problem; ideas were manipulated, exaggerated and simplified. The study reveals that, through Brain Based Learning strategies enhanced the observation, prediction, explanation and reasoning power of learners. The development of cognition among
children through this strategy and this help to the instructional practitioners to create generate new ideas in a classroom setup. The fling reveals that, the Brain Based Learning strategy was better than the student taught through Prevailing Activity Oriented Approach.

6) The present investigation involved through the effect of studying Mind Mapping as instructional strategy enhanced image, analytical, planning, creative thinking skills and recording information among learners. This strategy highly effective way of getting information of ideas in and out of brain. Learner’s who did not initially know the information at the comprehension level still have the opportunity to demonstrate their intelligence when higher –level thinking is required in completion of Mind Map. This strategy design provides templates or frames for learners or instructional practitioners to identify pertinent facts, to organize information, to record relationships between facts and ides within a learning task. The finding of the study it was proved that the students taught through strategies of Reflective teaching like Mind Mapping strategy was better than the student taught through Prevailing Activity Oriented Approach.

7) The study viewed that the learner’s different aspects of academic potentials have enhanced through SCAMPER Techniques, SWOT Analysis, Brain Based Learning and Mind Mapping. If this strategy is employed among teachers, the teaching becomes more effective; these
strategies can be implemented in the curriculum and Adapted among teacher trainees. This strategy can be used to attain new goal setting in social science teaching.

8) The new and variety of strategies always increase the ability of the teacher, the present generations of teacher trainees able to teach the students in accordance with the natural learning process, the learning become a joyful experience, the curriculum is renewed per Adaption of new strategy, learning and teaching become more effective ,it will strengthen the attitudes of the teacher towards action research, and consider the social and technical changes and Adapt new strategies according to the need of the learner and society.

9) Through the observation of the instructional practice, the investigator analyzed the effectiveness and components of each strategy. From this strategy SCAMPER Techniques was used effectively than SWOT Analysis for enhancing teacher accountability and Mind Mapping was better than Brain Based Learning strategies to enhance reflective teaching.

10) The results of self evaluation strategy reveals that the instructional practitioners were effectively implement their strategy and through this strategies the instructional practitioners could introduce the unit in indifferent ways ,provides more ideas, improve teaching skills, modify the teaching styles, to encourage creative problem solving , interest and
curiosity among learner’s and the instructional practitioners got positive experience from the each strategy.

For effective learning with praxis enthuse student’s desire for learning and the repertoire of vibrant and deep foundations in knowledge power as core of effective teaching. Hence the teachers are fully equipped to design devices leads to innovation in analytical perspective, articulation of thinking of professional capability. The teacher are entrusted with the task of learned to effective thinking process, apply specific learning strategies to think themselves through different tasks, taught to take themselves through learning activities and thus to gain conceptualize and become more independent as learners. The task of teacher here is to acknowledge cultivate exploit, enhance and to provide opportunities for effective scheduling and designing of the instruction for the students needs.

6.5. Limitations of the Study

Though every attempt was made to make the results of the study as reliable and generalize as possible, the investigator could identify certain possible limitations which have crept into the study. A few of them are listed below:

- The investigator had to limit the study in Social Science and could cover only few units, prescribed for standard IX.
The experimental part of the study was administered on a small sample for trying out each strategy.

The sample was selected from only five districts from Kerala.

The investigator developed the different strategies for different samples, of teachers and students.

Investigator limited the student sample to each teacher’s in uniform patterns.

The teachers could not follow the strategies in the prescribed time since its preparation was done by the investigator.

Lack of teacher co-operation to administer the strategies in its true spirits.

These strategies were applied to only some units in Social Science the selection of the strategy depends on the nature of unit /content.

Effectiveness of these strategies depends up on the teacher’s attitude towards the new strategy.

While admitting the limitations that are mentioned above, the investigator hopes that the study would yield valid findings since scientific procedures were followed through out the study.

6.6. Suggestions for further Research

The investigator has delimited the present study due to various practical reasons. The following are some related areas in order to increase the accountability of research in similar field.
The investigation can be extended by increasing the sample size.

A similar study can be conducted among the primary and higher secondary school teachers in different states.

The present study was conducted on a sample of 500 teachers and 5 districts to find out the extent of teacher accountability and reflective teaching. The study may be extended to a more district so that the finding can be generalized.

For the experimental study, researcher selected 10 samples for each strategy and small from different districts.

The study is extended to speed over the state so that the effectiveness of teaching strategy can be generalized.

The investigator hopes that the findings will be helpful in extending the knowledge in the area of teachers’ trainees or teacher’s education under different universities.

Since the teacher accountability is found to be highly influenced by reflective teaching among secondary Modes teachers, a detailed study on the effect of teacher accountability and reflective teaching among high school teachers can be conducted by in corporating other variables like professional accountability, professional growth, professional performance, creativity, professional attitude, job satisfaction, effective feedback, teaching method, insight into selection of appropriate environment etc.
• The study can be conducted in other disciplines too.

• A survey of attitude of students towards the implementation of new strategy and effectiveness of this strategy can be conducted.

• This study will help the teachers to develop their professionalism

• The authorities can evaluate the teacher’s professional growth and give the direction to develop their teacher accountability and reflective teaching.

• The Government agencies like NAAC will help to evaluate the teachers teaching effectiveness and provide some programmes.

• DIET and ASC can conduct the classes for professionally under developed teachers.

• The need for designing tools for virtual Learning Classrooms in all levels.

• The Impact of Teacher accountability in professional growth – An Empirical Study.

• Identification and experimentation of innovative pedagogical tools analysis – A survey study

• A survey study on the effect of reflective practices of teacher educators

• Instructional designs for reflective learning practices supporting multimedia experimental study
A study on the impact of reflective mode of curriculum transaction at higher education for uplifting social studied.

Effect of reflective learning practices in enhancing academic performance in other disciplines of social science

Impact of teacher Accountability for effective classroom management among pre-service and in service teachers

Even though there is some limitation in this study, it provides highly generalized constructs about the need of Teacher Accountability and reflective teaching practices among secondary school teachers. The investigator hopes that the finding will be helpful in extending the knowledge in the field of profession of each teacher. This study also help to improve teaching quality of Adapting new strategies in classroom teaching. In adopting any strategy, a teacher can create a good learning environment, strong interaction between the teacher and the students and plan the strategies to the learners.