CHAPTER 1

INTRODUCTION

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CHAPTER I

INTRODUCTION

1.1. Background of the Study.

Every nation has expectations from its teachers for the creation of knowledge through interpretative paradigm shift in the world scenario. It is said that no society can rise above the level of its teachers. Teachers are considered to be nation builders. A nation’s progress is determined by the quality of education imparted to its citizens. Education aims at the development of the power of adaptation to the ever changing social environment. It is the most powerful instrument, whose effective use requires the strength of will, dedicated work and sacrifice. Since this instrument is in the hands of teachers, they must possess the above mentioned qualities for its effective use. Thus, education is responsible for the development of desirable habits, skills and attitudes which make an individual a good citizen. The need of the society is always fulfilled through the education system prevailing in that society.

Teacher is the facilitator; the term facilitator stands for promoter who helps in forward, direction, to manage the curriculum transaction and modification. Hence in the context of instruction, a teacher’s role would be to promote learning, to help students; to develop leadership qualities,
decision making, entrepreneurial skill, providing them a conducive environment for interest, in order to bring about more learning and further development.

Teaching is a systematic presentation of facts, ideas, skills and techniques in the process of instructional transactions. Teaching always involves a relationship between the mind of one person (the teacher) and the mind of the other (the learner). It is an essential part of education which involves a highly personal relationship with the learners. According to Burtan (2007), “teaching is the stimulation, guidance, direction and encouragement of learning.” The world book encyclopedia describes teaching as “the process by which one person helps others to achieve knowledge, skills and aptitudes. In the words of Clarke (2003), “teaching refers to activities that are designed and performed to produce change in student behaviour.”

Teaching is the process carried out in different steps including preparation, presentation, comparison, generalization and application. It is based on the science of education, which is dynamic and growing. The ultimate aim of teaching is the modification of behaviour or converts the undesirable character of human beings to desirable qualities. It is a process of establishing a harmonious relationship between the teacher, the pupil and the subject. It gives useful information causing the child to learn, stimulate, motivate, develop skill, direct learning and helping the child to make
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According to Joyce and Weil (2003), “Teaching is a process by which teachers and students create a shared environment including a set of values and beliefs, which in turn colour their view of reality”. Teacher is the central pivot in the process instructional transactions. He imparts knowledge to pupils. Imparting knowledge and evaluation of students’ performance are the major part of the present educational system. Teachers are responsible for managing and maintaining student learning. A good teacher is one, who plays an effective role of a facilitator; a facilitator who is able to help the students. Teaching is concerned with bringing about desirable changes in behaviour of the learner by using different teaching strategies. In the classroom, the teacher uses different strategies and designs for effective teaching.

Teachers are committed to provide quality programmes and welcome accountability strategies that are effective, fairly implemented, and that achieve meaningful results. Accountability is an inherent part of teaching. All school boards have supervision and evaluation procedures in place and are responsible for the ongoing evaluation of teachers. Teaching is a highly regulated profession. As well, teachers continually enhance their practice by:
• assessing their own learning needs and developing annual professional growth plans;
• participating in professional development activities at the school, school board, and provincial level;
• addressing critical issues, sharing ideas and working on grade activities in divisional meetings;
• attending curriculum meetings; mentoring peers;
• presenting workshops; seminars, conference and courses
• taking courses to enhance their learning;
• Writing curriculum; and serving on in-school, board and provincial committees.

Accountability refers to an effective functioning of the educational system to meet the needs of the students and the society at large. Accountability is important in education, teachers are expected to maintain high standard of excellence for themselves and their students for democratic professional growth. Establishing the principles of accountability is one of the guiding considerations of the new education policy. The accountability is to be considered in its totality at the administrative level, academic level and also at financial level. The accountability has to be at the individual level and also at the institutional level. The administrators the members of faculty and also the students need to be brought under the concept of
accountability at the individual level. The faculty member is accountable to
the department, the department to the college, the college to the university
and university as a whole to the public. Thus each and every component of
higher education has to have accountability. The scope of accountability
needs to be considered in the context of administration, academic and
finance. Teachers today work in a climate of exacting demand for
accountability. Because some of the policies and process for holding
teachers and schools accountable have been established without much input
from teachers and because unintended consequences of these uniformed
courses of action can be damaging (Berliner & Biddle, 1996), it is critical
that teachers take steps to influence new developments in educational
policy. Teachers can take a leading role in influencing change in educational
policy, not only at the school and districts level, but also at the state and
national level. Danielson (2006) notes that teachers can bring about change
in policies that have a direct impact on students, such as attendance,
discipline, home work and grading policies.

The academic tasks are the major responsibility of institution of higher
education. It is the very purpose for which these institutions have been
established. To impart accumulated knowledge to the younger generation
through teaching and evaluation, to generate new knowledge through
research and to extend the benefits of academic work to the people at large
in the service on humanity are the several aspects of academic endeavor.
Academic freedom needs to be providing to academicians. The freedom will be accompanied by accountability. It is also necessary to clearly spell out the duties and responsibilities at each level and then accountability needs to be introduced at the individual level. The academic accountability needs to be considered in the context of teaching, research and extension of education. From the point of view of enhancing accountability of the educational system, it is necessary to adopt new strategy in educational system and the effective practices of the reflective teaching and preparation of effective course designs.

Effective course designs may make use of different teaching strategies or methods. According to Dick et al. (2001) “instructional strategy is used generally to cover the various aspects of sequencing and organizing the content, specifying learning activities, and deciding how to deliver the content and activities.” Pedagogic strategies refer to a systematic scientific and schematic mode of abstract presentation of instruction. They can influence instructional design models. Instructional design models refer to more precise instructional designs (based on some more explicit teaching and learning goals). A model can (but must not) implement several kinds of pedagogic strategies and modalities. According to Guskey (2002), teachers develop the new belief and attitudes that necessary for fundamental change which new programs result in improvements in student learning.
Throughout this century, many educators have argued that teachers need to be more reflective about their work. The argument is often made that schools and society are constantly changing and that teachers must be reflective in order to cope effectively with the changing circumstances. Furthermore, it is commonly accepted that no teacher education programme, whatever its focus, can prepare teachers to work effectively in all kinds of classroom settings. Therefore, it becomes important for teachers to be reflective in order that teachers may intelligently apply the knowledge and skills gained by the teachers in the formal preparation for teaching to situations that may be very different from those teachers experienced during their training. Many have argued that the nature of teaching and the ecology of classroom make reflective teaching unrealistic and even undesirable. We have argued that reflective teaching is both possible and desirable. A competent teacher emerges their learning community by transforming from the static states to dynamic mode through innovation and monitoring. Reflective teaching is the practices adopted by the teachers for better learning outcomes. Reflective teaching is extremely valuable as a stance, a state of mind, a healthy, questioning attitude towards the practices of one profession. The main value of reflective teaching lies in its potential to clarify our thinking.

Teachers indicated that maintaining a positive focus on imparting changes led them to face a myriad of inevitable changes both inside and
outside the classroom. To make teachers master professionals, the situational landscape demand development of appropriate pragmatic classroom performances towards uplifting the pedagogical background. An agenda for equipping teachers in their trend demand an analyzed through quality cycle of conceptual interpretation and logical justification for the transcend patents of interaction through the multiple process approach.

Learning is that reflective activity which enables the learner to draw up on previous experience, to understand and evaluate the present, so as to shape future actions and formulate new knowledge (Abbott 1996:1). Learning strategies play an important role in reaching a wider audience in the classroom. A classroom comprises of students with diverse learning needs, interests and a wide ranging levels of prior knowledge questions, the rationality of resorting to a single method in teaching /learning concepts embodied in the textbook. The investigator tries to find out how the teacher accountability and reflective teaching help to the professional growth and how can enhance teacher accountability and reflective teaching among secondary school teachers.

1.2. Need and Significance of the Study

The present day teachers are having greater responsibilities because the society has become so complex and the individuals living in the society are having varied interests, conflicts, opinions and ideologies. The responsibility of a teacher transcends the art of merely passing on
knowledge and discipline the student. Teachers act as facilitators in co-operating and encouraging intellect and social development for the future years of a student life. They emphasize, education will help student to uplift socially, intellectually, emotionally and personally.

The responsibility of a teacher also lies in providing activities and materials that engage and challenge the students intellectually. A good teacher transmits his passion of the subject into his students in an interesting, clear and conscious manner. Empowered teachers always find ways and means to improve their teaching techniques. The professional abreast of the teacher can be seen by employing innovative trends and mediated techniques of curricular transaction. The teacher must design or select each strategy, he employs in his instruction and each design or selection should be based on his interpretation. An instructional strategy is defined as something, a teacher arranges, that is designed to establish interaction between the teacher, the students and the subject matter or any combination of these three dimensions. Effective teaching in the present century requires more than a basic understanding of educational theory and classroom management. Teachers must also collaborate with other educators to learn how to implement new technology or strategy in the classroom and how to prepare students to enter a global economy.

A teacher plays a very important role in the life of students as well as the society to lay firm foundations for further useful citizenship. In modern
times, due to the explosion of knowledge and expectations, the role of the school has undergone tremendous transformation. The job of a teacher is very crucial and challenging because it is he who is to shape the student’s life in the best possible way. The traditional goal of education remains the same. Teachers want to help their student’s effective critical thinkers and lifelong learners with a strong sense of social responsibilities. Teacher quality is the key determinants of student success. Teacher quality is more closely related to student achievement than any other factors.

Teacher should be knowledgeable and willing to apply new strategies and techniques in their classroom. Teacher should also understand the different learning styles and be able to identify the learning styles of their students. Teachers need to take their role as both a resource for students and as a guide through the difficulties of life seriously and should strive to foster healthy relationships with their students.

An effective teacher should be flexible and should be able to wear a lot of different hats. If one teaching method is boring, something new should be tried. A teacher has to assume the role of a parent, counsellor and disciplinarian. An effective teacher should be able to assimilate these roles into one package. In addition to flexibility and judging, a teacher has to be both receptive and perceptive. A receptive teacher is open to new ideas, which is important when trying to teach a variety of different students. A perceptive teacher is able to see the student. By keeping a close watch on
students and student performances, open up opportunities to reach them. Teachers should involve families and the community in the school; parents should be seen as partners in the educational system.

Teaching process being the core of the educative process, new alternative strategies need to be developed and investigated, as conventional strategies have proved ineffective. However, in spite of the freedom a teacher is given, very few teachers resort to alternative teaching/learning strategies in the classroom.

According to the nature of the subject and the unit, the teacher can provide two or more teaching methods in the teaching learning process—lecture, storytelling, project, assignment, textbook, role play and activity methods etc. These methods can be adopted effectively in the classroom to transact the curricular objectives in the classroom. It is the teacher that matters; not the content.

Today, new teaching strategies can be provided for certain units so that the teaching learning process will become more interesting and effective. Using new strategies, a teacher can provide critical attitudes and different types of skills to the students and it develops student’s learning processes. An effective teacher can provide a variety of innovative strategies according to the nature of subject/teaching units. There is a need to make the teachers aware of their accountability in the profession. Teacher’s accountability can be evaluated at frequent intervals. There must
be a mechanism for the proper supervision of the work of teachers. The supervisor should see how far the teachers are accountable in respect of teaching, research, co-curricular activities, use of aids and equipments in the classroom, utilization of local resources for the benefit of the students and for the development of student’s moral and ethical values.

The teacher should be aware about the differentiated stance of curricular areas and the instructional transaction modes in effective exploration of the subject matter. Developing new paradigms in curriculum transaction can motivate the students to think creatively and reconfiguration the structured schemata and provide an opportunity for improving human capabilities of all children, through the provision of community-owned equality education on a mission mode. The aims and objectives of education are changed; strategies have been framed that include active involvement of students and local community.

The present study is a earnest and attempt to find out the professional competencies of teachers in adopting new strategies retrieve relevant information and integrated information in existing knowledge stratum .As a teacher can adopt teacher accountability such as positive attitude towards students, colleagues, management and generation of knowledge for co–constructing knowledge and professional action. So the investigator intended to find out some strategies leading to better teacher accountability.
This study is an attempt to develop certain strategies for better teacher accountability and reflective teaching among secondary school teachers. The investigator, being a teacher educator for the past ten years teaching at B.Ed and M.Ed levels, had personally experienced the need for reflective teaching practices as a means for professional development and accountability in teaching profession. The investigator selected Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER) Technique, Strengths, Weakness, Opportunities and Threats (SWOT) Analysis for developing Teacher Accountability and Brain Based Learning (BBL) and Mind Mapping (MM) strategies for Reflective teaching practices among secondary school teachers. These strategies will help to improve the involvement of students and the teacher’s professional growth. The investigator tried to teach using the new strategies like SWOT analysis and SACMPER Technique, Brain Based Learning and Mind Mapping in classroom teaching for the Unit, Factors of Production from the subject Social Science prescribed for Standard IX, Government of Kerala.

The Need and Significant of the Study; the investigator formulated qualitative and qualitative research question based on research hypotheses. The qualitative research question is about the relationship that exists between two or more variables. Qualitative research question involves asking a question about some process, issue, or phenomenon that is to be
explored. Based on the hypotheses, the investigator formulated the following research questions.

1. How teacher accountability and reflective teaching are interrelated?
2. How teacher accountability is significant among secondary school teachers?
3. How reflective teaching is significant among secondary school teachers?
4. How the independent and dependent variables are interrelated?
5. How the teacher accountability and reflective teaching can be enhanced among secondary school teachers?
6. What type of teaching strategies also more effective for improving the academic performance among secondary school students?
7. Whether any the significant differences exist in the effectiveness of SCAMPER Technique and SWOT Analysis strategy over the prevailing method of teaching among secondary school teachers?
8. Whether any significant differences exist in the effectiveness of brain based learning and Mind mapping learning over the prevailing method of teaching among secondary school teachers?

1.3. Statement of the Problem

There are a variety of teaching strategies that instructors can use to improve student learning. Teaching strategies can be an effective way to achieve instructional goals. It provides a way to communicate a large amount of information to many listeners, maximizing the instructor control.
Teaching and learning suggests that the use of a variety of instructional strategies can positively enhance students learning. Teaching strategies should be carefully matched to the teaching objectives of a particular lesson.

Reflective teaching requires competence in the methods of evidence-based classroom enquiry, to support the progressive development of higher standards of teaching. It enables teachers to creatively mediate externally developed framework for teaching and learning. Reflective teaching warrants the raising standards in teaching. When reflective teaching is used as a means of professional development, the teacher can be effective. Teacher can confidently expect to raise their standards of professional competence through adopting the process of reflective teaching and new strategies. Reflective teachers also need to monitor, observe and collect data on their own and the children’s intentions, actions and feelings. The present study aims to find out better teacher accountability and reflective teaching and to develop some strategies for better learning. Hence the study is entitled as “Developing Certain Strategies for Better Teacher Accountability and Reflective Teaching among Secondary School Teachers in Kerala.”

1.4. Definition of Key Terms

Some of the key terms that require classifications are presented below
Strategy

A strategy is a mnemonic device that assists students in understanding and completing an academic test, usually by specifying a series of steps to be completed in sequential order. Teaching strategies are the methods that the teacher uses to allow learners to access and acquire information. A strategy is essentially a method for approaching a task or more generally attaining a goal (Kirby, 2006). Strategy is a method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem.

In the present study, strategy is conceived as a particular method that the teacher uses to improve their teaching styles and apply the new technique according to their own styles and assist learning and improve the student learning styles and help students to store and retrieve information and the entire full participation of students in the classroom and giving emphases to concepts, theory, relationship, ideas and generalization for attaining long term goals. It is the specific actions taken by the teacher to make teaching easier, faster, more enjoyable, more self directed and more transferable to new situations. As used in the study, strategies adopted by the investigator are 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; the details of which are separately given.
Teacher Accountability

Harvey (2011) states: Accountability is the requirement, when undertaking an activity, to expressly address the concerns, requirements or perspectives of others. The assurance of a unit to its stakeholders is that it provides education of good quality. (Cambell & Rozsnyai, 2002).

In the present study, teacher accountability is an obligation or willingness to accept responsibility or take responsibility to adopt new instructional strategy. Teachers are accountable for life, needs and aspiration of the people in the society and they are accountable to the authorities, students and teacher fraternity; responsibility for improvement in pupil’s achievement and should be responsible and dedicated towards students, parents, head of the institutions and society and the effectiveness of teachers on the moral, legal, intellectual, professional and social spheres are parts of teacher accountability.

Reflective Teaching

One way of doing this is through observing reflective on one’s own teaching and using observation and reflection as a way of bringing about change, this approach to teaching can be described as reflective teaching (Richards -2011). Reflective Teaching is a strategy for promoting thinking about the process of teaching. It was developed as a pure teaching technique with the intent of making teachers more thoughtful practitioners (Cruickshank et al, 2010).
Reflective teaching should be personally fulfilling for teachers, but also lead to a steady increase in the quality of the education provided for children and reflective practice supports initial training students, newly qualified teachers, teaching assistants and experienced professionals in satisfying performance standard and competences. Reflective teaching is one way of doing this through observing and reflection on one’s own teaching and using observation and reflection as a way of bringing about changes. In the present study, the reflective teaching is considered as a self–assessment of teachers as well as students through the adoption of new strategy.

**Strengths, Weakness, Opportunities and Threats (SWOT) Analysis**

Strengths, Weakness, Opportunities and Threats (SWOT) analysis is a tool that can provide prompts to the governors, management, teachers and staff involved in the analysis of what is effective and less effective in the schools systems and procedures, in preparation for a plan of some form. (Morrison-2010)

A SWOT analysis is a subjective assessment of data which is organized by the SWOT format into a logical order that helps understanding, presentation, discussion and decision–making and prompt action and responses. It is the commonly used method involving categorizing both internal and external factors as strengths, weakness, opportunities and threats-identifying the internal and external factors that
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are favourable and unfavourable for achieving specific objectives. The strengths and weaknesses are internal factors and opportunities and threats are external factors that create value or destroy value. In the present study, SWOT Analysis is used as a strategy for transaction of the lessons to find out strengths, weaknesses, opportunities and threats of teaching unit and help the students for decision making.

**Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange (SCAMPER)**

SCAMPER is a strategy that can be used to assist students to generate new or alters to support creative, divergent thinking. SCAMPER is an acronym for **Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate and Reverse or Rearrange**. The SCAMPER method helps us to kick off a brainstorming session. We can use this method in situations such as finding new solutions, creating new products, driving process improvement, finding root cause etc (Eberle, 2012)

SCAMPER is a creative thinking strategy in which students consider alternate ways of viewing an artifact or idea by generating ways they could substitute, combine, adopt, put to other use, eliminate and reverse it. (Gregory and Parry, 2005)

In the present study, SCAMPER Technique uses as a strategy and set of direct questions which answer about problem and opportunity in order to come up with new ideas related to the unit and questions which challenge
the current way of thinking, encourage learners to be more lateral in their thinking, more lateral in their creativity and divergent thinking, develop their critical thinking skills and brain storming and supports them in constructing own imaginative, useful co-operative learning and great stimulus for students.

**Brain Based Learning**

Brain based learning is based on the structure and function of the brain. According to Spears and Wilson (2010); Brain Based Learning is a “theory that as long as the brain can constitute to functions its normal process, learning can occur.

According to Jensen (2012). “Brain Based Learning is a dynamic interdisciplinary, system wide approach based on the way current research in neuroscience suggests our brain naturally learns best”. Brain Based Learning is defined as the “recognition of the brain’s codes for a meaningful learning and adjusting the teaching process in relation to those codes”.

Brain based learning is tan engagement of strategy based on the principles derived from and understanding of the brain and brain related disciplines. Learning is naturally designed to learn considers how the brain teaches best and help educators to create effective learning and to establish patterns and association in the brain .It provides them with rich and complex experiences make learning more permanent and active processing
focuses on meaningful learning than memorization. In the present study, the 
Brain Based Learning is used as higher order thinking strategy using 
Predictive, Reasoning, and Observation and Explain (PROE) format. 

**Mind Mapping**

Mind Mapping is an expression of Radical Thinking and is therefore a 
natural function of the human mind. It is a powerful graphic technique 
which provides a universal key to unlocking the potential of the brain. 
(Buzan, 2012)

Mind Mapping is a pictorial method for recording knowledge and 
modeling systems used to represent words, ideas, tasks or other items linked 
to and arranged around a central key word or idea and are used to generate, 
visualize, structure and classify ideas .It is an aid in studying and organizing 
information, solving problems, making decisions, consolidating information 
from different research sources, thinking through complex problems, 
writing and summarizing information .In the present study, Mind Mapping 
is used as a strategy for learning units and are presented in a pictorial 
method. 

**1.5. Hypotheses Formulated**

Hypotheses are important primarily in qualitative studies because 
their goal and purpose differs from those of quantitative research studies. 
Quantitative research has the goal of identifying the relationships that exist 
between sets of variables, whereas qualitative research attempts to discover,
explore, or describe a given setting, event or situation (Johnson & Christensen, 2008). Here, the investigator adopted qualitative and quantitative method and formulated hypotheses based on qualitative and quantitative approach.

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.
- 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 sample 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 sample based on gender.

1.6. 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.

1. 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.
2. 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.

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

4. 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.

5. 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 types of management of institution.

6. 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.

7. 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 types of management of institution.

8. 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.

9. 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.

1.7. Methodology in Brief

Since the study was intended for developing certain strategies for better Teacher Accountability among Secondary School Teachers in Kerala, the investigator adopted the Survey cum Experimental method or mixed method for the study. To find out the teacher accountability, the investigator adopted survey method and collected data from different districts. For developing certain strategies for better teacher accountability, the investigator adopted experimental method for the study.

Since the study involved the collection of data from teachers spread over the North and Central Kerala, the investigator resorted to stratified
random sampling technique by giving due consideration to various categories that fall in the selection of sample. The districts covered were Kottayam, Ernakulum, Kasargod, Kannur, Kozhikode and Wayanad. The size of the teacher sample was limited to 500. Teacher Accountability Analysis Inventory and Reflective Teaching Analysis Inventory were used. The following factors were taken into consideration while selecting the sample, male and female teachers, rural and urban, government, aided and unaided school teachers.

The investigator also prepared Participant Structured Observation Schedule and Strategy Evaluation Proforma to ensure the effectiveness of each strategy. In the study ‘pre-test, post-test, non equivalent group design was used for experimentation’. The investigator, herself personally administered the tests among secondary school teachers, teaching Social Science and explained each strategy and distributed the prepared self learning packages to 40 teachers. Before implementing the experimental study, the investigator conducted pre-test and after post –test, with the help of concerned teachers. Two divisions were selected as experimental groups and the other as the control groups for selected strategies.

**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).
2. Lesson Designs based on Select Strategies

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

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

Statistical Techniques used for the Study

In this study, the investigator used descriptive and inferential statistics. Descriptive statistics were used to describe the basic features of the data in the study. They provide simple summaries about the sample and the measures. Descriptive statistics help us to simply large amounts of data in a sensible way. Thus, we use inferential statistics to make inferences from our data to more general conditions; we use descriptive statistics simply to describe what's going on in our data. We use inferential statistics to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. We begin with the research question, identify the dependent and independent variables involved, identify the level of measurement of every variable, and go to the accompanying table that will point us to the appropriate technique. The main idea of analysis of variance techniques is to describe the characteristics of a variable under study and to compare the means of a dependent variable between categories of a group. The investigator analyzed the collected data using the appropriate statistical technique of the software SPSS 2011. The statistical techniques used for the study is:
1. Percentage Analysis
2. Arithmetic Mean
3. Standard Deviation
4. Critical ratio
5. Analysis of Co-Variance (ANCOVA)

1.8. Scope and Limitations of the Study

The present study was an attempt to find out the teacher accountability and reflective teaching and to provide some strategies for improvement of teacher accountability and reflective teaching practices among secondary level teachers. For this purpose, the investigator selected certain strategies namely; SWOT Analysis, SCAMPER Technique, Brain Based Learning and Mind Mapping. The investigator hopes that the results obtained from the present study may help the educationalists to adopt the strategies for teaching Social Science and other Arts and Science subjects. Through these strategies, it is hoped that teacher accountability, reflective teaching and professional growth would increase. These strategies are more effective than the present activity method. It helps to produce positive attitude towards learning and increase creativity among students and higher order thinking ability.

The study helps to improve the quality of teaching by adopting new strategies in classroom teaching. The present study helps to improve the quality of teaching of Social Science and other Science subjects. The
teacher will also get a clear idea of how students learn in accordance with the strategies used by the teachers. 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. It provides appropriate experiences to the teachers and the taught. An effective teacher can design a good strategy on the basis of individual differences in the process of learning. These strategies help to realize specific instructional goals and socialization of the pupils.

These methods are useful for giving training to the teacher to develop upon himself/herself self confidence and initiative. These strategies provide high level of confidence towards the mastery of pedagogical skills and high sense of responsibility and can prepare a cadre of teachers who are morally and psychologically fit for carrying out pedagogical activities

Developing new strategies and applying each strategy in the classroom help the teacher to increase their professional growth and the teaching learning process. It helps in higher level of interaction between teacher and students. The implementation of the new strategy increase the teacher’s personal qualities such as commitment, dedication, responsibility, develop values, self evaluation of their teaching styles, develop positive attitude toward community and society etc.
It is further hoped that the present study will throw light on the role of accountability in the teaching profession. A dedicated, commitment oriented teacher is an asset to an educational institution, no doubt, wherever he is attached to. This self awareness of responsibility shouldered on the professional front brings home quality sustenance and that the teacher is answerable to the system; the teacher is the basic unit for the quality make up will pave the way for quality substances throughout one’s career life. Thus the study seems an eye opener to those decision makers in the educational set up, policy makers and for the recruitment of personnel’s into the teaching profession.

Teaching effectiveness is depended up on several factors, it consists of many components like, attitude, responsibility, teachers personal traits, respect, discipline, punctuality, co-operation, and Self evaluation, commitment and so on. So the teacher should be ready to accept and adopt innovative techniques or a variety of teaching strategies in classroom teaching according to the need of the students and the content to be taught.

Through this study, teachers should ensure their reflective teaching practices and keep their teacher accountability during the entire period of service; forming part of their life style itself.

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 throughout the study.

1.9. Organization of the Report

This report has been presented in six chapters.
Chapter I: Deals with a brief introductory background on the need and significance of the study, statement of the problem, definition of key terms, variables, objective of the study, hypotheses set for the study, methodology in brief, statistical techniques used for the study, scope and limitations of the study and the organization of the report.

Chapter II: It describes the theoretical background on teacher accountability and reflective teaching.

Chapter III: It contains a brief review of related literature and reported research findings pertaining to the area of study.

Chapter IV: presents the methodology overview of the selected variables. It includes the description of tools and samples used for the study, data collection, procedures, scoring and the statistical techniques used for the study.

Chapter V: It describes the detailed analysis and interpretation of the research study.

Chapter VI: It contains summary of the study, major conclusion, tenability of the hypotheses, educational implications and suggestions for further research.