CHAPTER I

INTRODUCTION

Background of the Study

Mathematics is essential for understanding every discipline. Without the knowledge of mathematics, it is very difficult for the better understanding of other disciplines like economics, physics, chemistry and so on. In this connection, Bacon (2011) says, "Mathematics is the gate and key of science. Neglect of mathematics causes injury to all knowledge, since he who is ignorant of it cannot know the other sciences or things of the world. And what the result is. It is that it produces such the worse men who are thus ignorant and so do not seek a remedy."(pp.167). But, mathematics needs to have competitive knowledge and skill in solving the daily life problems.

About the aspects of teaching, Bhatia and Bhatia (1986) said, "Teaching is establishing a harmonious relationship between teacher, student and the subject. It is giving useful information. It is causing the children to learn. It is the stimulation and direction of learning. It is helping the child to make effective adjustment. It is guiding their activity and it is the training of their emotions. Among the qualities and qualification needed by a teacher to be successful in teaching mathematics, s/he should have broad knowledge of the subject matter, instructional communication techniques and feel confident in handling their many and varied structures and application.

Further, about the qualities expected to be in a teacher, Taneja (2010) added that “teacher is the leader of a society”. He should set up good standards in the society for better citizenship. He must enable a child to evaluate what is good and what is bad. As a

child is encouraged to see a good picture and read a good newspaper, he (a child) can subsequently help the society to move forward. The teacher, both by percept and example, can inculcate in a child the virtues of good citizenship. If the demands are the expressions of plainness to form in the children, he must never deny this by himself and should be polite and considerate to the children.

Curriculum is dynamic process that should be changeable according to the need of a nation and the situations. This should equally apply in the context of Nepal, i.e. mathematics curriculum has been changed in different periods to improve the standard of education. The implementation of NESP (2028 BS) had improved the previously existing curriculum. The NEC (2049 BS) has given some suggestion for improvement of education. Thus, it is quite reasonable to state that mathematics teaching has turned a number of phases for its proper development from the ancient period to now. A Numbers of teaching methods were advocated by the different mathematicians, psychologists and others but none of them imposed the all-round satisfaction of the teacher and student on the practical aspect. As a result, the teaching problems remain unsolved. There are various problems of teaching mathematics that are challenging for the teachers. In the context of Nepal, the physical problem of teaching can be counted as unavailability of textbook on the proper time, lack of knowledge and improper use of instructional materials, classroom problems, etc.

The main problem faced by secondary level mathematics teacher are teachers inefficient and unenthusiastic to execute their in classroom due to economic crises of school, Lack of proper classroom management, lack of motivation, lack of appropriate teaching method and materials, lack of teacher training and lack of facility and large class

size(Rijal,2014). also in another research the main problem faced by secondary level mathematics teacher are lack of moral education, lack of encouragement, lack of supervisor help, work load and lack of proper evaluation (Paudel,2011). Many government and nongovernment official research indicate huge amount of time and a lot of money have been spent to find the problem of teacher, but no satisfactory result was found. In previous research many researchers' research on this topic .they just found some problems related to this topic. This study is based on researcher ten years of teaching experiences on institutional school. Where researcher faced many problems related with present study. The purpose of the present study was to explore the types and extents of problem faced by teachers in executing instructional activities in mathematics classes of the Secondary level in the district of Kathmandu. So this study is concentrated on exploring the problems they face while teaching mathematics on secondary level in Kathmandu district.

Statement of the Problem

Mathematics is one of the major disciplines of knowledge. It has both theoretical and practical value. Mathematics has impacted also in the advancement of science and technology. Moreover, mathematics is regarded as the backbone of science and technology. Regarding the importance of mathematics government of all over the world has implemented mathematics as the compulsory subject in school curriculum in the same way government of Nepal has also introduced mathematics as compulsory subject in school mathematics. The government as well as society has expected more from the school to learn mathematical knowledge and the skill. For that, government and parents invested more money in learning mathematics in comparison to other subjects. But

different level examination has shown the achievement in mathematics is not satisfactory. Many researches have done to identify the factors affecting the low achievement in mathematics.

Among them few researchers (Ramesh Poudel, Narayan Acharya and Jaya Prasad Rijal) have given special priority to teachers' and their problems in mathematics like as teachers' inefficient and unenthusiastic to execute their in classroom due to economic crises of school, Lack of proper classroom management, lack of motivation, lack of appropriate teaching method and materials, lack of teacher training and lack of facility and large class size. The learning achievement of students' will not be satisfactory unless the problems of teaching and learning are identified and solved. The researcher has chosen this issue because researcher himself has faced such problems during his five years teaching experiences. Researcher has faced the problems like lack of physical facilities, medium of language, low wages, students' low achievements. This research shows point of departure from other research because it has included the issue on the impact of social media. Social media is creating several impact on students' achievement likewise, students' less attentations towards learning because of sticking too much in internet. Also, excessive use of internet students' concentration is lost towards learning because they spend much of their time in internet. Also Researcher faced many more problem related to this topic while teaching in secondary level mathematics.

Therefore, my study was intended to answer the following questions:

- What are the problems faced by mathematics teachers of community and institutional school?
- Do the teachers face any problems in adopting effective method?

- What are the problems faced by mathematics teachers in student evaluation?
- How does the impact of social media affect in teaching and learning mathematics?

Objectives of the Study

The overall objective of this research work was to analyze the teaching problems of mathematics teachers of secondary level. However, the following specific objectives were as follows.

- To identify the problems of mathematics teacher in teaching mathematics.
- To compare the teaching problems faced by mathematics teacher of community and institutional school.

Significance of the Study

The teaching problems being faced by the mathematics teacher was the main focus of this study. Therefore, this study would provide some good information about current teaching problems on existing mathematics curriculum of grade nine and ten. It will explain about teaching problems that are being faced by the mathematics teachers. It helps to improve mathematics teaching especially for untrained teacher. This research study is very important in designing a revised mathematics curriculum at secondary level. Thus, the study would be significant for the reason that it would help to provide information for the concerned agencies to revise and improve the mathematics teaching learning at secondary level.

Delimitations of Study

The limitations of the study were following

- This study was concerned with the problems faced by secondary school mathematics teachers' in teaching mathematics at grade nine and ten.
- This study was limited to only Kathmandu District.
- The samples of the study were 25 teachers' from Community and 25 teachers' from institutional schools.
- This study only focus on the numerical analysis of problems faced by Community school and institutional schools teachers.
- The data of this study was generated through the questionnaire, interviews and class observation.

Definitions of related terms

Community School: The schools that are established by or run with the subsidy given by the government.

Institutional School: The secondary school runs by individual ownership.

Teacher: The teacher who teach mathematics at secondary level.

Problem: The difficulties in teaching learning activities of mathematics faced by mathematics teacher at grade **IX** and **X.**

Physical Facilities: The physical infrastructure that are seen at sample schools like classroom, playground, library, laboratory and teaching learning materials.

Teaching Method: The Way of teaching mathematics at secondary level.

Evaluation System: Process of evaluating the students' achievement at school.

Social Media: social media refers to different sources of internet like facebook, email, youtube etc. used by sample school students.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

It is very important to review related literature to compare the study which provides strong knowledge about the related topic. The related literature will show the knowledge gap, information of already researched fields and direction for the current study. Number of books, research reports, paper and other booklets can be found that concerned with curriculum teaching materials, method and so on. It helps to construct the framework to achieve the objectives of this study. This chapter deals with the review of other related literature about facing problems concerning with teaching instructions, method and materials, classroom management, teachers and student characteristics on teaching activities. The researcher has reviewed some related literature are cited below.

Empirical Review

Pandit (1999) mentioned on an article “Problem faced by mathematics curriculum on three years B.Ed. level mathematics curriculum in Nepal”. He concluded that mathematics teacher education program in Nepal is disturbed by so many factors such as lack of lectures involvement in curriculum planning, lack of efficiency to conduct teaching facilities, students weak background in the subject matter, lack of opportunity given to upgrade their knowledge and huge number of personal problem of lectures.

Lamichhane (2001) conducted his thesis entitled "A comparative study on the problem faced by mathematics teacher in urban and rural area." He has aimed to compare and analyze the problems faced by mathematics teacher in rural and urban areas. For this purpose he has selected 20 schools from each urban areas and rural areas and conducted a survey research design of quantitative research. He concluded that several problems

proposed up in the eyes of the teachers' and problem faced by the urban teachers' were not found to be significantly different from those of rural teachers'.

Basnet (2005) has conducted a study entitled “Teaching problems faced by mathematics teachers' in existing curriculum of grade ten.” He has determined his research area as Jhapa district of Nepal. He has set objectives to identify the problems faced by teachers' in existing curriculum. To achieve this study he has conducted a quantitative survey research design. He has selected 50 mathematics teachers including their students as sample. He found that there are so many problems of teaching and learning. Teachers' and students' did not get orientation about curriculum. So they feel difficult to teach and learn mathematics. Similarly textbooks, teachers guide and other supplementary materials did not reach in school, which provides problems to teach and learn mathematics. He concluded that the teachers' and the students' are facing many problems due to the lack of training orientation opportunity for the mathematics teachers in existing curriculum, inadequacy of textbooks, lack of teachers' guide and reference books, lack of physical facilities in the classroom, large class size, defective evaluation system and so on.

Thapa (2005) conducted a thesis entitled “A study on the problem faced by teacher in teaching mathematics at primary level” she concluded that teacher are facing many problems due to large class size, irrelevancy of teacher guide, lack of instructional materials, lack of supervisory help and so on. In many mathematics teaching, teaching techniques are such aids which are used to make the lesson interesting, to explain the content and to remember it by heart during teaching techniques. Teaching or instruction strategies refer to a pattern of teaching acts that serve to attain certain outcomes and to

guard against others. There are several methods of students' and some are emphasizing in the supreme source to as a teacher. Among them inductive method, discovery method, filled trip method, discussion method, heuristic method, project method, etc. are the students centered methods, which always emphasizes on the active participation of the student.

Luitel (2005) mentioned that the crowded classroom is one of the major problems of implementing interactive teaching and learning situation in Nepalese schools. Furthermore, about the classroom situation of Nepalese schools, he wrote, the classroom was appropriate for thirty students'. However, there were more than fifty students', The students' were talking and no sound was heard from the side of the students' in the thirty minutes. Of course, teachers' are bounded to face problem in such an environment.

Chaulagain (2005) conducted his study entitled "A study of problem faced by secondary school mathematics teacher in teaching geometry" and made a conclusion that geometry teaching and learning in Kathmandu is not satisfactory. His nine different categories showed that teacher do not have significant problems on applying educational techniques and using locally available materials. Among the remaining categories, most of teachers have faced problem on either to student's evaluation techniques, geometry instruction, teacher's professional development and constructing and using instructional materials.

Acharya (2006) conducted a research entitled 'A study on the problem faced by higher secondary level mathematics teacher in teaching mathematics of grade twelve. He summarize that the prescribed curriculum and the existing textbooks are not well

planned, sequential and practical problem well. It also concluded that trained and untrained teachers, both are facing similar types of problem on Kathmandu district.

Marasini (2008) conducted a thesis entitled “A study on problem faced by students and teachers in the implementation of mathematics curriculum grade VIII”. The conclusion of his study was the subject matter included in the mathematics curriculum of grade VIII are not suitable for the levels of the students and it is difficult to implement the subject of the curriculum and also there was vital problems on technique of teaching, teaching method and materials, curriculum and textbook etc.

Gautam (2009) described a thesis entitled "A study of problem faced by higher secondary school teacher in mathematics". The research design was qualitative; the population for the study was considered to be all Mathematics teachers, who have been teaching Mathematics in the Nawalparasi district in the grade XII. Eight teachers' were chosen as a sample from 8 different colleges, 4 colleges were from rural area and from urban area. The teachers' were chosen by purposive sampling method. A questionnaire consisting of fifty two items developed by the investigator was finalized in consultation with Mathematics experts and supervisor. The collected data were analyzed and interpreted by the statistical tools like mean weightage. He concluded that the prescribed curriculum and the existing textbooks are not well-managed, not ordered in simple to complex sequences. Practical problems are not well managed, not much applicable or appropriate, they are neither analytical nor numerical in nature, objectives are good but the need to Mathematics others classroom activities are poor. Language problem, poor economy, lack of refreshment training, examination oriented teaching, quality and size of blackboard, sequence of presentation and Mathematics laboratory were the burning

problem faced by mathematics teachers in their teaching profession. Comparing those problems between public and private college teachers in Mathematics, it was found that public and private school teachers faced similar kinds of problem.

Nepal (2010) conducted a thesis entitled “A study on the problem faced by mathematics teacher in teaching mathematics at secondary level of Palpa district”. He focused on identifying the problem and cause of problem on teaching mathematics. He concluded that there is lack of classroom management for the mathematics training due to the large number of students', lack of moral education, books are not available in time and students' are interested in political program. There is no sufficient mathematics teaching materials, teachers are not using available materials, there is lack of participatory approach of students and teacher both in classroom, lack of confidence of teacher, lack of irregularity of homework checking, lack of appropriate teaching method, mostly used lecture method, etc. are some of the problems that the difficulty is faced while teaching and learning geometry, arithmetic, probability and algebra.

Khanal (2012) conducted a thesis entitled “A study on the problem faced by mathematics teachers in teaching mathematics at Secondary level”. He concluded that most of the problem arises because of large class size, irrelevancy of teacher guide book in the sense of teacher need, lack of instructional materials, adequacy of teacher training, lack of supervision, lack of physical facility, etc. are the major problems faced by the Mathematics teacher.

This research is different from others research beacause the researcher has focused more on the impact of social media. The researcher has used both qualitative and quantitative approach of research design to identify better result about teachers' problem

of teaching mathematics. By studying the above reviews it was known that those reviews are relevant in relation to research topic of research. The researcher got different ideas about the research and know about the problems faced by Mathematics Teacher while teaching mathematics which helps researcher to find different problems related to this study. But, the above reviews were not able to find all the problems related to the topic problem faced by mathematics teacher at secondary level. These research indicate only the basic problem such as lack of physical facilities, lack of motivation, lack of economy, lack of teacher training etc.in the traditional way. The research could not focus on the problems related to the present context such as Impact of social media in teaching, curriculum and evaluation system. Many researches were done in this topic but these study could not find the problems related to this topic. This study was distinct from others research because the researcher tried to find out the problems related to the evaluation system, curriculum, and the impact of social media. In the sum up we can claim that those reviews are used as secondary source in order to conduct this research and to prove it authenticity,

Theoretical Review

Nepal is multicultural, multiethnic, multi religious and multilingual country. A large no of students' in a less facilited classroom is more difficult and challenging. Classroom is the collection heterogeneous group of students' of different groups, interest, needs and attitudes. So it is too vague to choose appropriate teaching method according to need of the students' need, interest and capacity in subject matter. Achieving targeted goal in classroom is hindered and obstructed by heterogeneous classes.

According to Penny (1991) the teachers may face some problems in heterogeneous classes which are as follows;

Discipline: Teachers' may find their heterogeneous classes are chaotic or difficult to control. Discipline problems occur when learners feel frustrated, lose concentration, get bored, or behave in a disruptive manner some reasons why heterogeneous may be more difficult to control because different learners may find the subject matter easier or more difficult to grasp. Often the quicker finish the tasks quicker before the other students' .As a result, they may misbehave while waiting for others to finish

Participation: In heterogeneous classes more advanced learners tend to participate more actively than weaker students. Lack of participation or attention from the teacher may further weaker learners proficiency in the subject

Interests: Interest may arise problems due to the difference among students in term of their attitude towards the subject matter and to the teachers; their knowledge in the subject matter and the personality; learning styles, motivation. Teachers of heterogeneous classes may face difficult to provide content activities that are motivating and interesting to all the learners in the class. For instance, some students' may find lesson boring, as the topic has no familiarity with their own life or their interests and not be interested in the lesson.

Effective learning for all: As a teacher, our aim is to reach all of our students. However, it is well known that every student has a different way of learning and learns and progress at different speeds .Thus while some students may find the learning task very easy to deal with others may find it difficult to understand .beside this learning also depends on what students have bought with them in class. Since it comes from different family, different

environmental and different nation .The multi-cultural cultural of the classroom may be the obstacle for the teachers in teaching the students which eventually result ineffective learning.

Individual Awareness: Teachers may find it difficult to get to know and follow the progress of all learners in a class. In classes where there are many different teachers' are not able to devote time and attention equally to all learners

Materials: Since most text books are designed for an ideal homogeneous environment. Teachers always have to deal with the problems that students react to the textbooks differently due to their individual differences. Therefore it is usually necessary for the teachers to evaluate and adopt the materials according to his/her class.

Conceptual Framework of Study

This study has focused to identify the problem and the causes of problem on teaching mathematics. From the study of related literature above, the researcher made the framework for this study. So, this study has related to the following framework.

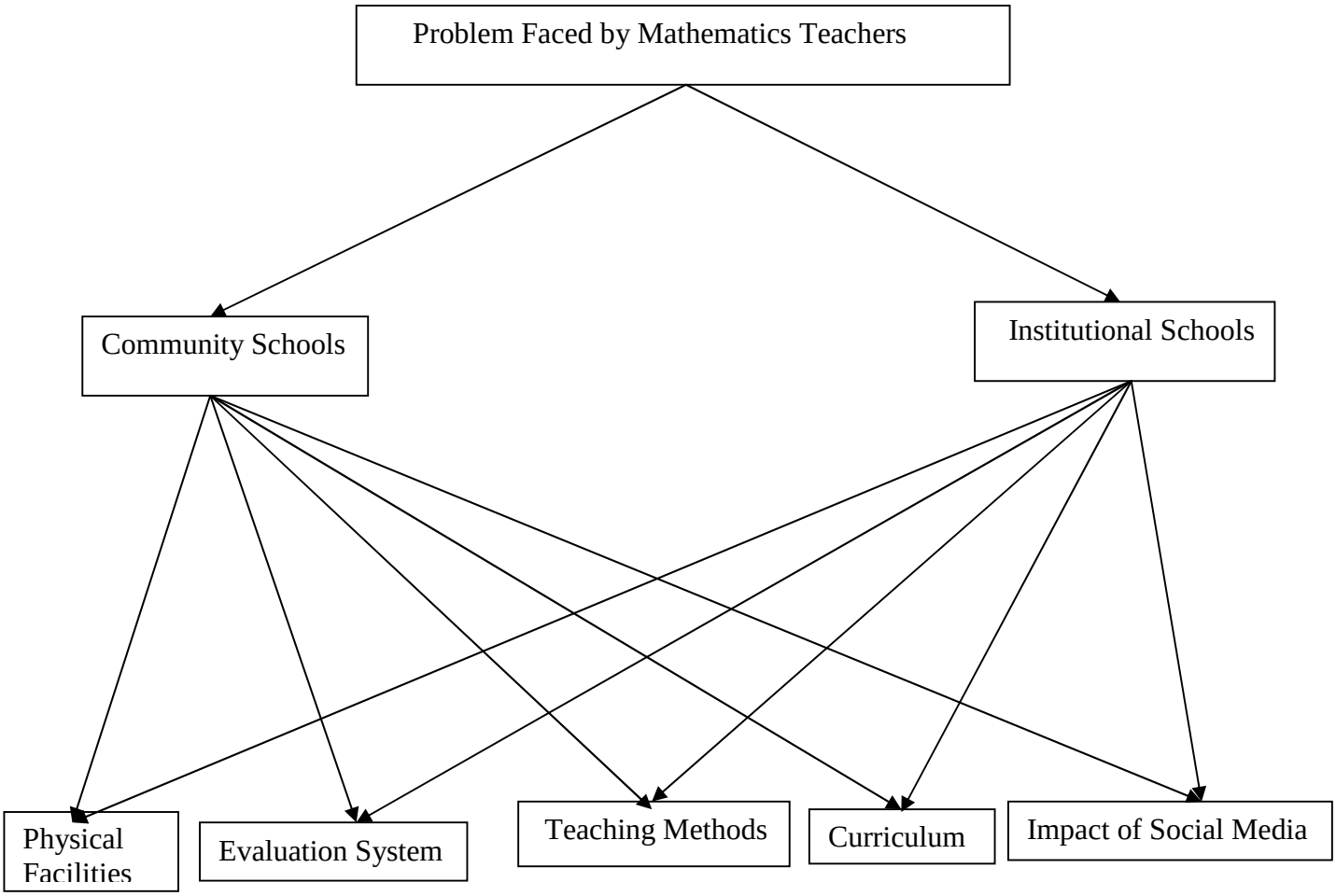

Fig: Problem faced by Mathematics Teachers

Source:Rijal,J.D(2014)

In the above framework it has been shown that there are many problems that are faced by the secondary mathematics teachers in community and institutional school. In

this research study the researcher tried to find out the problems related to physical facilities such as class room size, instructional materials, mathematics lab. In evaluation system the researcher focused on low achievement in mathematics, existing evaluation system and teaching learning activities in mathematics. Also researcher had third point as teaching methods on this, the researcher trend of present teaching method, the role of the teacher in teaching learning and use of instructional materials. The researcher highly focus on impact of social media , the researcher tried to find merits and demerits of social media in learning mathematics and its impact on mathematical achievements. Many problems from different aspects in teaching are felt by teachers. The attributes about these aspects among community and institutional school teachers are not same.

CHAPTER III

METHODS AND PROCEDURES

This chapter deals with the procedure of the study. It determines how the research becomes complete and systematic. The method applied in this study as discussed in the following sections: research design, population of the study, sample of the study, source of data, tools/instruments, data collection procedure, scoring procedure and data analysis procedure.

Design of the Study

Research design is an important part of the research. So, it is called as heart of the research. A good research depends upon design of the study. Quantitative and qualitative approaches were used to collect and generate the data in the field. The quantitative method, Questionnaire, notion of data collection and interpretation based on descriptive statistics to present the data in a meaningful way. Similarly the qualitative method was used to support the quantitative data where meaning was less understood. The mixed method was adopted to investigate the problem faced by the secondary school mathematics teacher in teaching mathematics. So, both the quantitative as well as qualitative techniques were used in this study. This study was conducted under the problem faced by teacher in teaching mathematics at secondary level.

Population of the study

To determine the population, selection of the proper sample is very challenging task in research study. Population is the overall unit of the study and sample are the small portion of the population. All the mathematics teachers' who teach mathematics in

secondary level of Kathmandu district in academic year 2072/73 were population of the study.

Sample of the study

There were 763 schools in Kathmandu district (DEO, Kathmandu). Among 763 schools, by stratified sampling method they were divided into two categories institutional schools and community schools. Among 99 community schools and 664 institutional schools. Researcher selected 25 community and 25 institutional schools with stratified random sampling method, Fifty secondary level mathematics teachers' were selected through simple random sampling method Out of 50 teachers, 25 teachers were selected from the community school and 25 teachers were from the institutional schools. Among them six teachers were selected for interview Purpose and six schools were selected for class observation through purposive sampling method.

Tools of Data Collection

Anything that becomes a means of collecting information for the study is called a research tool or research instrument. Constructing a research tool is the first practical step in carrying out the research process. A researcher decided how he/she collects the data then should construct a research instruments for this. Questionnaires, interview schedule, observation forms are the key tools to collect the data on research (Creswell 2009, 89). The research tools may vary according to the nature of the study. There is different research tools used in qualitative and quantitative designs. The researcher have decided to construct and use the following research tools.

Questionnaire: The questionnaire was developed by researcher himself with the help of supervisor. The questionnaire was constructed after the detailed study of related literature

such as articles, documents, thesis and framework of the study. Before developing the questionnaire researcher has consulted with mathematics experts and other mathematics teacher at school. The Questionnaire consisted of 25 statements where five statement from each point on conceptual framework. Each statement followed by ranked responses in the five point of Likert Scale. For the analysis of items, weightage of 5, 4, 3, 2 and 1 assigned to statement and state "strongly agree, agree, Neutral, disagree, strongly disagree" respectively. For the negative statement marking/ scoring is in the opposite order. The statements of the questionnaire was constructed in such a manner that they could find out the problem of teacher while teaching mathematics. The areas of the problems were related to the physical facilities, curriculum, teaching method, impact of social media and evaluation system. This was given in Appendix- A.

Observation Form: Observation is one of the major data collecting tools to collect the required data for the research. It gives the primary sources of data in the presence of researchers so it is more applicable to achieve the predetermined objectives. It gives the daily life related data so that one can analyze the situation deeply. The researcher had observed the six classes from sample schools. (See Appendix-C)

Interview Guideline: This tool was used for the qualitative information. Six teachers' were interviewed for this purpose. After collecting the data from questionnaire, the researcher selected the teachers for interview. The open ended question was asked them with the help of interview guidelines that was developed by the researcher himself with the help of supervisor. Interview guidelines was constructed in such a manner that they could find out the problem and causes of problem related to the classroom management, mathematics instruction, method and materials, Evaluation system, Curriculum, Impact

of social media, teachers and students characteristics and teacher training and its transfer in classroom teaching. (See Appendix B)

Reliability and Validity of Tools

Accounting for validity and reliability in qualitative research projects looks quite different from quantitative projects. Reliability is an examination of the stability or consistency of responses. To increase the consistency and reliability of a project, document all procedures, and if possible set up a detailed protocol. Other reliability procedures include (Creswell 2009, 191). Cross- match or triangulation method gives an accurate and reliable picture of situation. So the validity of tools was maintained by cross matching or triangulation the data collected from Observation and interview with teacher. Also the reliability and validity of questionnaire through pilot test.

Data Collection Procedure

For data collection, the researcher visited each of the sample school along with Questionnaire, observation form, interview schedule and request letter from T.U. to render any help needed to the researcher from the school administrative. After explaining the purpose of the visit, the researcher, in his presence, request each of the teachers of the school, included in the sample to fill questionnaire freely. The researcher explained and clarifies any confusion that arose in understanding the statements. The researcher also observed the class of the sampled teacher. Through observation the researcher observed classroom management, mathematical related infrastructure, lightining of classroom, teachers' technique to evaluating the student, use of teaching method in teaching mathematics, use of the curriculum and textbook to teach mathematics, use of internet and social media in teaching mathematics. The interview schedule asked to select sample

teacher by using open ended questions. The question are related to availability of mathematics lab, classroom management, how to evaluate students' achievement in mathematics, use of teaching method, availability of curriculum and textbook, role of social in teaching learning mathematics and its impact on students' achievement. The data obtained from observation and interview was noted and recorded with the audio devices.

Data Analysis and Interpretation

The obtained data were analyzed and interpreted with the help of following statistical techniques and explanation methods. For the analysis of items, weightage of 5, 4, 3, 2 and 1 assigned to statement and state “strongly agree, agree, Neutral, disagree, strongly disagree” respectively. For the negative statement marking/ scoring is in the opposite order. Weighted mean was calculated, total score of five point likert scale is 15. Mean weightage was used to locate the central position of the responses to the statements. The average mean weightage was calculated as follows.

$$Weighted\ Mean = \frac{Total\ Rank\ Score\ of\ a\ statement}{Number\ of\ Teacher's\ Responses}$$

It used to locate the central position of the response to the statement of teachers' as a whole in the rating scale, if the calculated index is greater than three then it is concluded that the statement indicates the problems and it is strongly favorable to it. If the mean weightage is less than or equal to three then it is less favorable to the problems.

The collected data through interview schedule and classroom observation were analyzed and interpreted on the basis of the framework that the researcher had already developed in the review of the related literature section. i.e. the information were

categorized in the broader themes area that are lack of physical facilities, evaluation system, lack of motivation, lack of appropriate teaching method and materials and impact of social media. Then they were analyzed along with triangulation among three sources i.e. observation, interview and questionnaire. The researcher tries to interconnect with previous findings and the way of analysis in the similar context. The analysis of the data were maintained through cross matching or triangulation Method.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

In this chapter the collected data were analyzed and interpreted. For the collection of data, the questionnaire, classroom observation form and interview schedule were used by the researcher for the purpose of the study. In the questionnaire, 25 questions were asked to the teacher. The collected data were tabulated and analyzed according to the objective of the study. The tabulated data were statistically analyzed and interpreted by using Likert Scale of mean weightage. These data were calculated in the various problem faced by teachers related to mathematics teaching at secondary level of Kathmandu district. This chapter deals with the analysis and interpretation of the obtained data. To analyze, the data was categorized into following subheadings.

- Analysis of the problems faced by community school mathematics Teacher.
- Analysis of the problems faced by institutional school mathematics teacher.
- Identifying the problems of teacher in teaching and learning mathematics.
- Comparison of the problem faced by both school teachers in teaching mathematics.

Analysis of the problems faced by community school Mathematics teachers

To analyze the problem faced by community school mathematics teachers, 25 teachers were selected as sample and given Questionnaire. Then the average mean of each statements of this Questionnaire was made and compared to average mean three.

The obtained data was presented in table below. For the understanding of the problems related to Physical Facilities, the researcher raised five questions. These five questions and their mean weightage were tabulated below:

Table: 4.1Mean weightage of teacher response on problem related to Physical facilities

S.N.	**Statement**	**Mean Weightage**	**Remarks**
1	The physical facilities for Mathematics classroom are an appropriated.	4.16	Strong favour
2	There is proper place for demonstration of instructional materials.	3.44	Strong Favour
3	Mathematics laboratory is available.	1.44	Weak Favour
4	Electronic media is available for Mathematics classroom.	1.36	Weak Favour
5	The room is equipped with a graph based, bulleted board and Mathematics corner.	3.72	Strong Favour

From the above table, the problem faced by teachers were categorized into five sub titles. To analyze the teachers, problem regarding to physical facilities,The teachers' response was found to be 4.16. This is more than the average value three. The mean score of teachers problems about the availability of mathematics laboratory was found to be 1.44, which is less than the mean score three. This value indicates that teachers have lack of mathematics laboratory in their school. They have only few mathematical

laboratory materials. The response of the teachers regarding to having the well equipped classroom, the mean score was found to be 3.72, which indicates that they have well equipped classroom. which indicates that there are no problems with the availability of mathematics material in classroom. From the above result, it was found that teachers have no problem with the physical facilities in their classroom. Among five statements related to the physical facilities three statements were found to be positive. The main problem from the table is seen on the aviability of mathematics laboratory and use of electronic media in mathematics classroom.

Table: 4.2 Mean weightage of teacher response on problems related to Curriculum

S.N.	Statement	Mean Weightage	Remarks
06	The existing curriculum is based on students' needs and interest.	3.52	Strong Favour
07	The curriculum is able to fulfill the community desire.	3.40	Strong Favour
08	The curriculum has good horizontal and vertical arrangement.	3.44	Strong Favour
09	The existing textbook is based on the desire curriculum.	3.40	Strong Favour
10	There is availability of Mathematics laboratory.	1.68	Weak Favour

The mean score of the statement 6th statement related to the existing curriculum of mathematics was found to be 3.52, which indicates that teachers thinks that the curriculum is based on the need and interest of the students. Similarly, the mean score of

teachers' view about the vertical and horizontal arrangement of the curriculum was found to be 3.44, which is greater than three. This value represents that teachers think that there is no lack of horizontal and vertical arrangement of curriculum. It was found that teachers were agreed on that there is no problem with the available text book. The mean score of the 9th statement was found to be 3.40 The mean score of statement 10^{th} was 1.68 which is less then average mean 3. which indicates that there is no availability of mathematics lab.

From the teacher's response mentioned above. It was found the teachers' faced problem with curriculum and textbook. They believed that there is some problem with the available textbook and curriculum. They have to face many problem regarding to curriculum and textbook. The available textbook and curriculum do not support their teaching method and does not incorporate students' needs and interest.

Table: 4.3 Mean weightage of teacher response on problems related to Teaching Method

S.N.	Statement	Mean Weightage	Remarks
11	The present teaching method is appropriated.	3.44	Strong Favour
12	Teacher encourages students to participate in teaching method.	3.92	Strong Favour
13	The existing method of teaching motivates students to learn Mathematics.	3.76	Strong Favour
14	Students are actively participating in teaching learning activities.	3.6	Strong Favour
15	Instructional materials and media are used appropriately to teach Mathematics.	4.04	Strong Favour

The mean score of the statement 11th was found to be 3.44, which is more than the weightage mean score so, it is concluded that teachers have no problem with the existing teaching method. Similarly the mean score of the statements 12th, 13th, 14th and 15th was found to be 3.92, 3.76, 3.6 and 4.04 which are more than the weightage mean three. This indicates that teachers have no problems with the teaching method.

Table: 4.4 Mean weightage of teacher response on problems related to Social media

S.N.	Statement	Mean Weightage	Remarks
16	Social media like Facebook, Google, YouTube, etc. can play a vital role for learning Mathematics.	4.6	Strong Favour
17	Teachers and students use these media frequently.	3.3	Strong Favour
18	Social media provides hindrance for learning Mathematics.	2.2	Weak Favour
19	Social media has no impact in learning Mathematics.	1.56	Weak Favour
20	Social media extends the knowledge and skill for both teachers as well as students.	3.68	Strong Favour

The mean score of statement 16 th is found to be 4.6 which is more then mean weightage three. It indicates that Social media like Facebook, Google, YouTube, etc. can play a vital role for learning Mathematics. The mean score of the statement 17th was found to be 3.3. This is more than the weightage mean three. This indicates that teachers and students' use social media frequently. The mean score of statement 18th and 19th were

found to be 2.2 & 1.56 resceptively, which are less than average mean three. This indicated that the teacher felt difficulties with the social media in teaching and learning mathematics and has no impact on teaching and learning.The mean score of the statement 20 was found to be 3.68. it indicates that social media extended the knowledge and help to develop the new skill for teacher as wellas students if it is used properly.from the above table the main problem seen in social media's impact on learning mathematics as well as the hindrance provided by social media in learning mathematics.

Table: 4.5 Mean weightage of teacher response on problems related to Evalution System

S.N.	Statements	Mean Weightage	Remarks
21	The existing evaluation system is appropriate for Mathematics learning.	3.2	Strong Favour
22	There is gap between the objectives of curriculum and evaluation system.	2.84	Weak Favour
23	Lack of practice is one of the causes of low achievement in Mathematics.	3.44	Strong Favour
24	Practical mark in Mathematics as other subjects is also essential.	3.24	Strong Favour
25	The present evaluation system supports the teaching learning activities.	3.28	Strong Favour

The mean score of statement 21st was found to be 3.2. which indicates that teachers have no problem with the present evaluation system, but the mean score of statement 22nd was found to be 2.84, which is less than the weightage mean score three. This value indicates that teachers feel difficulties with the existing evaluation system. They

think that there is gap between objectives of the curriculum and the evaluation scheme. The mean score of the statements 24th and 25th were found to be more than the weightage mean score, therefore, the teachers have no problems with these stateents.

By the above tables (4.1, 4.2, 4.3, 4.4 and 4.5), the problems faced by community school teachers in teaching mathematics are as follows There is lack of electronic materials in the classroom, There is lack of mathematical laboratory, Teachers as well as students do not have knowledge and skills with proper use of media for teaching and learning mathematics, Social media provides hindrance for learning mathematics.There are problems in evaluation system. From the above table the main problem in the gap between the objective of curriculum and evaluation system.

Analysis of the problems faced by Institutional school Mathematics teachers

To analyze the institutional school teachers' problems regarding to the teaching mathematics, The Questionnaire was give to 25 teachers and their response were calculated with the help of likert scale. The weightage mean score of teachers view was presented below

Table: 4.6 Mean weightage of teacher response on problems related to Physical Facilities

S.N.	Statement	Mean Weightage	Remarks
1	The physical facilities for Mathematics classroom are an appropriated.	4.12	Strong Favour
2	There is proper place for demonstration of instructional materials.	3.6	Strong Favour
3	Mathematics laboratory is available.	2.72	Weak Favour
4	Electronic media is available for Mathematics classroom.	2.88	Weak Favour
5	The room is equipped with a graph based, bulleted board and Mathematics corner.	3.68	Strong Favour

From the table above the mean score of the statements first and second was found to be 4.12 and 3.60 respectively, which is more than the weightage mean three. These values indicate that teachers have no problems with the availability of physical facilities and the instructional materials in classroom. The mean score of the statement 3rd was calculated to 2.72, which is less than the weightage mean three. This indicates the teachers have to face problems regarding to mathematical laboratory. Similarly, the mean score of statement four was found to be 2.88 which is also less than the weightage mean three. This value indicates that teacher have problems with the electronical instruments in classroom. About 60% teacher felt that they have problem in teaching due to the lack of electronic materials in classroom. The main problem from the table is seen on the aviability of mathematics laboratory and use of electronic media in mathematics classroom.

Table: 4.7 Mean weightage of teacher response on problems related to Curriculum

S.N.	Statement	Mean Weightage	Remarks
6	The existing curriculum is based on students' needs and interest.	3.48	Strong Favour
7	The curriculum is able to fulfill the community desire.	3.2	Strong Favour
8	The curriculum has good horizontal and vertical arrangement.	2.96	Weak Favour
9	The existing textbook is based on the desire curriculum.	3.28	Strong Favour
10	There is availability of Mathematics laboratory.	2.84	Weak Favour

The mean score of the statements 6th, 7th and 9th was calculated to be 3.48, 3.20 and 3.28 respectively. These values are greater than the weightage mean three and concluded that teachers' have no problems with these variables in teaching method, but the mean score of 8th and 10th statement was found to be 2.96 and 2.84 respectively. These values are less than the weightage mean score three, therefore, it can be concluded that teachers' felt that there is problem in the horizontal and vertical arrangement of curriculum and the availability of mathematics laboratory. It was found that about 60% teachers faced the problems related to the curriculum and physical facilities. The main problem is seen in horizontal and vertical arrangement of curriculum.

Table: 4.8 Mean weightage of teacher response on problems related to Teaching Method

S.N.	Statement	MeanWeightage	Remarks
11	The present teaching method is appropriated.	2.84	Weak Favour
12	Teacher encourages students to participate in teaching method.	3.8	Strong Favour
13	The existing method of teaching motivates students to learn Mathematics.	3.56	Strong Favour
14	Students are actively participating in teaching learning activities.	3.48	Strong Favour
15	Instructional materials and media are used appropriately to teach Mathematics.	3.8	Strong Favour

The mean score of the statement eleven was found to be 2.84 which is less than the weightage mean score three. This value represents that the teachers faced the problems regarding to teaching method. The mean score of the statements 12th, 13th, 14th and 15th were calculated to be 3.80, 3.56, 3.48 and 3.80 respectively, which are more than the weightage mean three. These values indicate that teachers have no problem with these variables mentioned in these respective statements. From above table the main problem is seen in present teaching method.

Table: 4.9 Mean weightage of teacher response on problems related to Social Media

S.N.	Statement	MeanWeightage	Remarks
16	Social media like Facebook, Google, YouTube, etc. can play a vital role for learning Mathematics.	4.8	Strong Favour
17	Teachers and students use these media frequently.	3.96	Strong Favour
18	Social media provides hindrance for learning Mathematics.	2.2	Weak Favour
19	Social media has no impact in learning Mathematics.	1.39	Weak Favour
20	Social media extends the knowledge and skill for both teachers as well as students.	3.48	Strong Favour

From the above table, the mean score of the statements 16th, 17th and 20th related to the impact of social media for teaching and learning were calculated to be 4.80, 3.96 and 3.48 respectively. These values indicate that teachers have no problems with these variables where as the mean score of the statements. 18th and 19th was found to be 2.20 and 1.39 respectively. These values are less than the weightage mean three. Therefore, it can be concluded that teachers have problem with the social media and its impeact on learning mathematics. They blame that these social media does not support our teaching method. from the above table the main problem seen in social media's impact on learning mathematics as well as the hindrance provided by social media in learning mathematics.

Table: 4.10 Mean weightage of teacher response on problems related to Evalution System

S.N.	Statements	Mean Weightage	Remarks
21	The existing evaluation system is appropriate for Mathematics learning.	2.8	Weak Favour
22	There is gap between the objectives of curriculum and evaluation system.	3.44	Strong Favour
23	Lack of practice is one of the causes of low achievement in Mathematics.	3.64	Strong Favour
24	Practical mark in Mathematics as other subjects is also essential.	3.12	Strong Favour
25	The present evaluation system supports the teaching learning activities.	3.24	Strong Favour

The mean score of the statements 21st was found to be 2.80, which is less than weight means score three. The mean scores of the statements 22nd, 23rd, 24th and 25th were calculated to be 3.44, 3.64, 3.12 and 3.24 respectively which are greater than weightage mean score. These values indicate that teachers have only some problems in evaluation system.

From the analysis of the above tables (4.5, 4.6, 4.7, 4.8, 4.9 and 4.10), the problems faced by institutional school teachers for teaching mathematics are as follows There is lack of electronical instrument in classroom, There is not well equipped classroom with graph, bulleted boards etc, There is gap between horizontal and vertical arrangement in curriculum, There is lack of mathematics laboratory, The existing teaching method is not appropriate, Social media provides the hindrance in learning mathematics, The evaluation

system is problematic for teaching mathematics. From the above table the main problem is seen in existing evalution system in learning mathematics.

Identifying the problem of teachers' in teaching and learning mathematics

To achieve the second objective of this study an interview schedule and observation form was prepared and conducted among the sample teachers of both community school and institutional school to find the recent trends problems of teaching and learning mathematics. The responses of the teachers were interpretated thematically.

The problems faced by teachers were interpretated as following bullets.

Problems related with Physical Facilities

Physical facilities are important aspect for learning mathematics. It provides all the requirement tools for learning but in the schools that researcher had observed, the researcher found that the physical facilities were not well. The structure of classroom was not suitable. Some of the observed school has not well lighting classroom. The sitting arrangement of student only following two or three sides benches. Researcher observed that only few schools have flatin board, graph board and other materials. Resarcher observed that only 2 out of 5 schools have mathematical laboratory. Researcher asked the questions to the teacher and he replied that *"physical facilities are important aspect of learning mathematics. It provides a suitable and favourable environment for learning mathematics. But you can see the structure of this school. There is neither well equipped mathematics classroom nor mathematics laboratory." (Institutitional school teacher view)*

"All the facilities of school depend on economic status where we have crisis of economic now we are going to fulfill the cricis by collecting worth through ghar-dailo karyakram. In future we hope to mange required physical problem."
(Community school teacher view)

From the above statement, it is clear that the physical facilities and available resources of school give problems to the teachers.the school administration should manage the physical facilities related with teacher and students. From the observation there is not well ventelated classroom, the size of class room is very small but the numbers of students were more then 50. There was lack of mathematical labrotary, lack of suffient space for mathematical activities.

Problems Related to Curriculum

Curriculum is a guideline or map for classroom teaching and learning activities. It guides teachers as well as students for whole curriculum activities. But the situation for using curriculum is very critical. I asked teachers about the curriculum but they were not well known about it. One of them replied.

"Curriculum that I know is the syllabus given in the book. I follow the syllabus and the examination questions pattern." (Institutional school teacher view)

"There is lack of mathematical instruments that are recommended by curriculum.also we can not finish the course in time if we go through the curriculum." (Community school teacher view)

From the above statement, it is clear that the teachers have not understanding about curriculum syllabus and textbook. They just follow the syllabus and textbook. They neither use the methods evaluation schemes mentioned in curriculum. They just focused on the examination system. Curriculum and syllabus were used very lightly only textbook is given priority. Therefore teachers have many problems with teaching and learning mathematics. Also through observation it was seen that teachers and students only depend on the guide books of mathematics and teachers note. From the observation, it was found that trained/skilled teachers were not also implementing their skill in the real classroom appropriately. Supervision is an essential part of classroom teaching that also aware and gives feedback to the teachers for transfer in classroom teaching. Head teacher, resource person and school supervisor are especially responsible for supervising the class. All the teachers were found to have in favor of supervision of the classroom teaching, however their supervision was limited to know whether the teachers were in classroom or not and course would be completed in time or not. It was found that the school supervisions used to come in their schools for sometimes and talked with head teacher and teacher but they did not observe the classes regularly. Teachers only teaches exam oriented question and examples but do not focus on curriculum which was issued by CDC.

Problems related with Teaching Method

Teaching method is a process by which teachers stimulates students for learning new knowledge, skills and concept. It is a way of empowering the student. So it must be effective and meaningful. To identify the teachers' problem regarding to teaching method. Researcher observed five classes and found that all the teachers' were using same

teaching method (Lecture method) and problem solving method. They just give a short introduction about the topic and start to solve the problem and asked student to solve another problems. The teachers were not motivated to use the innovating and students centered method of teaching. Researcher asked teachers' about this situation and one of them replied that:

"Yes, I know teaching methods must be students centered, but what to do. It is very difficult to manage the classroom and all the students are not too intelligence to understand the mathematical concepts. The size of class room is also one major problem." (Community school teacher view)

"We have only geometry box, graph boards a teaching materials for Mathematics class, some mathematical charts are available in the school for primary level. We are not using audio visual due to the time consuming."

(Instutitional schoolteacher view)

From the above statement it was clear that teachers' theoretically know about the students' centered method but do not use it, because of lack of physical facilities and lack of motivation. Difficult to use teaching materials because of the large class. Provisions or opportunities should be provided where mathematics teachers could sit, contemplate are interact about the problems and recommend optional solutions and alternatives to the problems. From the class observation, it shows that the teacher was not using any instructional materials. He just wrote some formula and rule of probability without definition of probability. The teacher was teaching their class without any plan. Most of

the teachers who were found to be not using instructional materials even claimed that they were using materials.

Problems Related with Social Media

Social media is one of the most important factors for learning mathematics. The students' and teachers' can achive more knowledge if it is used in proper way. Every problems of mathematics can be searched and learned in the social site. Among the schools Researcher observed he found that most of the teachers' do not use social media like as google, you tube for teaching and learning mathematics. Most of the teachers' were found that they do not have any idea of teaching and learning mathematics through social media. They just use social media for entertainment rather than teaching learning mathematics.Researcher asked some teachers' about the impact of social media in teaching and learning mathematics he replied *"I belive that social media plays important role in teaching and learning mathematics.but to teach mathematics through social media the classroom must be well equiped with internet facility, projector and speaker.we don't have all facilities to teach mathematics through using social media. We have pressure to finish the course in time so it is very difficult to use social media in all topic of mathematics. Though we give some related questions to search in social site but students spend more time in facebook, youtube, email rather than searching questions answer. "* (Institutional school teacher view)

"I belive that social media helps in teaching and learning mathematics. In our school we have well equiped mathematical labrotary but most of the teachers can not teach mathematical topics through social media. Most of teachers were found untrained. Due

to poor economic condition all the students can not afford mobile, computer and laptop as well as internet at home. (Community school teacher view)

From the above views of two different schools teachers' It was clear that social media is one of the problems for learning mathematics. Teachers are more currious to teach mathematics through use of social media but due to lack of internet facilities, well equiped mathematical classroom and lack of support from school admistration they faced problems on teaching mathematics. The Children spent most of their time in face book, you tube, Google, and other social sites. These activities of students' have discouraged the students' interest of learning mathematics.

Problems Related to Evaluation System

Evaluation system is the heart part for teaching. It must be relevant and effective so that it guides overall other elements of teaching. I observed that teachers had to face many problems regarding to evaluation system. They gave problems to solve the students but did not check their class work. They just do on the white boards. Teachers felt irritated to encourage individual's students to learn mathematical knowledge, skills and concepts. Teachers could not check students' homework properly. They did not manage time for checking homework as well as class work. To know the problem of teachers' regarding to Evaluation system.The researcher asked to teacher about the problem faced by him while evaluating students'. The teacher replied *"Evaluation is major part of teaching and learning. You know that we have to teach the large number of students in a single class. But the time is limited. We have to evaluate student's output of whole year by taking exam of limited hours.we can not judge student's ability by taking*

writtern exam of just three hours, our evalution system is so traditional so it needs to be changed for the batter evalution of the student's achivement. So it does not support us for evaluating students. " (Institutional school teacher view)

One of the teacher replied"Due to lack of time we can not take unit test,weekly test and monthly test regularly,We need to finish the course in time so we can not conduct different learning activites while help in the students' continuous evalution system. We have to evaluate students' achievement only through paper pencil test."

(Community schoolteacher view)

From the above views of teacher, it is clear that teachers have to face problems related evaluating students. The culture of evaluating students is traditional. The concept of teachers as well as students is traditional which causes problems for teaching mathematics. The number of students in classroom, limited time, lack of interests.

Comparison between problems faced by community and Institutional School teachers'.

To compare the teachers' problems faced by two different schools. Under the different variables like physical facilities, curriculum, teaching methods.impact of social media and evaluation system, the mean of both school teachers' were calculated and tabulated below;

Table 4.11 Mean Score of Community and Institutional School Teachers Problems

Problems Faced in	Community	Institutional
Physical facilities	2.82	3.40
Curriculum	3.08	3.10
Teaching method	3.75	3.50
Social media	3.20	3.16
Evaluation system	3.20	3.25

From the above table, it was found that the mean score of institutional school teacher and community school teachers related to physical facilities were compare to be 3.40 and 2.82, which was more than that of community school teacher. This implies that the community school teachers have to face more problems of physical facilities in teaching in comparison of institutional school teachers.

The mean score of community school teachers and institutional school teachers related to curriculum were compared to be 3.08 and 3.10. These values are almost same. So they face same problems related to curriculum. Similarly the mean score of the problems on social media was calculated to be 3.20 and 3.16, which indicates that the institutional school teacher face more problems related to social to social media. The mean score of the problems on teaching method was calculated to be 3.75 and 3.50 respectively of community and institutional school teachers. This indicates that institutional school teacher felt some more problems regarding to teaching method than that of community school teachers. Finally, the mean score of the community school teachers and institutional school teachers related to evaluation system was calculated to

be 3.20 and 3.25 which are almost same. So they have to face same problems in evaluating students.

By analyzing the above mentioned five points we can conclude that the community school teachers faced more problems regarding to instutional school teachers. Like lack of physical facilities, unability of curriculum and appropritate textbook, use of tradicational teaching method, unability of audio visual classroom.

From the evidence of interview and observing the class it was found that the physical ficilities of institutional school was better then that of community school. The physical facilities of institutional school were well maintained and cared but the physical facilities of community school was once constructed but not repaired for the future use. The condition of classroom was very dirty and no facility of mathematics lab. Due to the earthquake the bulding of school was cracked and it was not repaired properly. Also the institutional school teachers were quite known and familier about the curriculum then that of the community school teacher. Community schoolteacher says that there is no availability of curriculum text book and references book in time. Both schools teacher replied if we go through the curriculum we could not finish the course in time we have the pressure of finishing the course in time and the students should get good marks in board exam. So by observing their classes and by taking interview it was found that the problem faced by them related to curriculum was almost same.

From the evidence of interview and observing the class it was found that community school was better than institutional school most of the teachers of institutional schools were found to be part time and helmet teacher on comparision to

community school teacher. Institutional school teacher can not give fulltime to their students at the need of time. Most of classes of institutional schools were found to be crowded so the teacher used only leacture method the teacher was unabale to take care of each student.The students of institutional school was found to be more rote learning rather than creative thinking where as the students of community schools were more creative thinking. The students use d to make teaching learning materials by them self using the local resources. The students of community schools try to solve each problems by them self where as the students of instutional schools fully depend on teachers. Instutional school teacher do not get training once in year but the community schools teacher were trained by government.

From the evidence of interview and observing the class it was found that the teachers of institutional schools felt more problems than that of the community school teachers on impact of social media. The economice status of institutional shools guardains were good so they provide good mobiles, laptop to their children.the students were found misusing the social sites and were sticking with social sites continuously. They even can not afford money to their children to buy refernce books and copies etc. the researcher do not found any audio visual devices at institutional school where as audio visual devices were found at community schools but due to the lack of training the teachers were not able to teach through the devices. The evaluation systems at institutional schools were found to be better than that of community school. The community school teacher were not able to take unit test, weekly test and monthly test due to the lack of time and no any strict rule from the administration. So the community school teacher can not conduct the different program for students' evaluation

system.where as at institutional school there is system of unit test, weekly test, monthly test, coaching classes, hostel facility and boost up exam and so on. So the achievements of institutional schools students' were better than that of community schools.

Chapter V

SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS

After the analysis and interpretation of the collected data, an attempt has been made to summarize to enlist the findings and some recommendations for further study. The first section of this chapter presents the summary of the study, the second section presents its findings and the last section presents recommendations based on the findings of the study.

Summary

This study entitled "Problems Faced By mathematics teachers at secondary level " was intended to identify and compare the problem of teachers teaching in community school and institutional school teachers in secondary level. To achieve the objective of the study 50 teachers 25 from community school and 25 from institutional school of Kathmandu District were selected as sample. Three different data collecting tools questionnaire, interview and observation were made and conducted among the sample teacher. The responses of the teachers were collected by interview and observation. The interview of the teachers were recorded and finally analyzed by triangulation method. The data obtained by questionnaire was quantitatively ranked by the help of likerts scale. The responses of the teachers were classified as community school teachers and institutional school teachers. Then mean of each statements were calculated and compared to the weightage mean three and assigned agree or disagree upon each statements. Then the observation and interview's responses were triangulated with the information. Then the different problems faced by teachers were interpreted differently.

It was found the teachers face problems related to Physical facilities, Curriculum, teaching method, impact of social media and evalution system.

Findings

On the basis of analysis and interpretation of the data, the findings of this study were mentioned as follows:

- There was lack of physical facilities in the classroom in both community and institutional school but comparatively there is more problems in community school rather than institutional school. The required teaching materials were not available in school. The physical facilities of the classroom is not supporting the classroom teaching and learning. There was no mathematics laboratory.
- There was not availability of curriculum in the school. The implementation of curriculum in community school was better than institutional school. The curriculum and text books are not available in time. The teachers were also not aware of the curriculum. They used to use only textbook as the means of teaching mathematics.
- The classroom teaching method was almost teacher centered in institutional school. In community school there is a lack of participatory approach both teacher and student in classroom. Students were not found interested and motivated for learning. It was also found the students were not actively participating in classroom learning activities.
- Due to lack of sufficient time, there was difficulty in checking homework and class work.

- Teachers were unaware about the current and innovating teaching method.
- There was lack of practice and proper guidance for students to learn mathematics.
- Students were spending more time in social sites like twitter, face book, YouTube and so on of institutional school rather than community school. Due to the economic crisis of guardians of community school's student they cannot afford electronic. So the teacher of Institutional school face more problem than community school in teaching and learning mathematics, which causes low motivation and interest of students' for learning mathematics.
- Teachers' were not fully prepared motivated to teach mathematics.
- Lack of use of various methods lesson plans and appropriate examples for teaching and learning mathematics.
- Because of the poor background of students of primary and lower secondary level on mathematics there is problem on teaching mathematics. Classes were much crowed that teacher could not teach mathematics well. Individual differences, variables of age and intelligence of students' are also affecting the achievement of students'. Also, students' are from different social, cultural, economic and family background so they are also affecting to teach to the teacher etc.
- The evaluation system is only focusing on summative evaluation system in community school where as institutional school has continuous evalution system. Which has caused many more problems.
- There was problem of managing the weak students' in the classroom teaching and learning.

- Due to the poor pre-knowledge of students', the teachers faced problem to teach mathematical problems.
- The school did not provide sufficient materials to teachers' which are related to mathematics.

Conclusion

During the researcher's five month of research in this topic. The researcher found that there are numerious problems related to physical facilities, teaching method, evalution system, curriculum and impact of social media. The above major findings of this study show that teachers faced many problems of teaching mathematics. On the basis of the above findings it was concluded that the teachers of both community school and institutional school teachers had to face many problems for teaching mathematics at secondary level. Community schools teacher are facing many problems rather then instutional school teacher due to lack of traning, crowed number students, lack of proper teaching metarials, lack of mathematics laboratory, poor evalution process, time factor and lack of proper management system.Also institutional teachers are facing problems related to monthly wages, facilities, pressure from guardians as well as school administration . Some as negative attitude towards mathematics is major physocological problem. The above problem faced by mathematics teacher can be minimized through improving the physical facilities of school, Giving training to the teacher, increasing teachers' wages, proper management system, improving the relationship between school administration and teachers', proper use of social media in teaching and learning mathematics.

Recommendation for Further Study

The conclusion of this study may not be generalizable for all parts of country like Nepal, due to the economical, geographical and educational differences. Thus, after analyzing the conclusions and implications of the study the researcher has made the following recommendations or suggestions for the study to validate the present study's findings:

- The same study can be made in rural area with a large number of sample
- Similar study can be made in Primary level and lower secondary level.
- The same study can be carried out with large scope.
- Same Study related to the problems faced by students' for the achievement of mathematics learning should be conducted.
- The problems related to mathematics curriculum, textbook and its relevancy to the context of multicultural classroom should be one of the areas of the further study.
- The problems related to rural areas with urban areas mathematics teachers' should be compared.
- Further study can be done on" causes of problem faced by mathematics teacher at same level".

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Appendix-A

Questionnaire form for the teacher

Respected teachers,

I am a master's degree student of Mathematics Education, central Department of Education, Kirtipur, Kathmandu. I am a writing thesis entitled on ***"Problem faced by Mathematics Teacher at Secondary level"*** as the partial fulfillment of my degree graduation. Teaching learning activities couldn't be effective without identifying the actual problem of the teachers in teaching, so to complete this thesis, I have prepared some questionnaires, which are prepared for you. Researcher is very much thankful for your valuable help and would like to express gratitude to you and your institution. The information obtained from you will be used this study and your answer will keep secret.

Researcher
Kamal Rana Magar
Department of Mathematics Education, Kirtipur
Kathmandu

I requested to fill this questionnaire as follows:

- Please read carefully and respond as you fell.
- For open questionnaire, please write your opinion.
- You are requested not to leave blank for any question.

Questionnaire for Teacher

School's Name: …… **Date: ……..**
Teacher's Name: …… **Academic Qualification: ……**
Teaching Experience: …….. **Phone no: ……**

Dear teacher give tick marks ( ) which you feel the best option where **SA**: Strongly agree

A: Agree, **N**: neutral, **D**: Disagree, **SD**: Strongly Degree.

Categories	S A	A	N	D	S D
Physical Facilities					
The physical facilities for mathematics classroom are an appropriate.					
There is proper place for demonstration of instructional material materials.					
Mathematics laboratory is available					
Electronic media is available for mathematics classroom					
The room is equipped with a graph based, bulleted board and Mathematics corner.					
Curriculum					
The existing curriculum is based on students' needs and interest					
The curriculum is able to fulfill the community desire.					
The curriculum has good horizontal and vertical arrangement					
The existing textbook is based on the desire curriculum					

Categories	S A	A	N	D	S D
Teaching Method					
The present teaching method is appropriate.					
Teacher encourages students to participate in					

teaching method					
The existing method of teaching motivates students to learn Mathematics					
Students are actively participating in teaching learning activities					
Instructional materials and media are used appropriately to teach Mathematics.					
Social Media					
Social media like Facebook, Google, YouTube, etc. can play a vital role for learning Mathematics.					
Teachers' and students' use these media frequently					
Social media provides hindrance for learning Mathematics					
Social media has no impact in learning Mathematics					
Social media extends the knowledge and skill for both teachers as well as students.					
Evaluation System					
The existing evaluation system is appropriate for Mathematics learning.					
There is gap between the objectives of curriculum and evaluation system					
Lack of practice is one of the causes of low achievement in Mathematics					
The present evaluation system supports the teaching learning activities.					
Practical mark in Mathematics as other subjects is also essential					

Appendix-B

Interview Guideline for Mathematics Teacher

Name: Qualification:

Age: Sex:

Teaching experience: Training:

School's name:

The Interview with mathematics teacher will take on the basis of following main topics:

- Physical facilities: Numbers of student's, class size, mathematical lab, white board, lighting, classroom management etc.
- Curriculum: textbook, availability of curriculum, reference books, teacher guide lesson plan , teacher training etc.
- Use of teaching method, teaching materials etc.
- Evaluation System: use of formative and summative evaluation, student's evaluation while teaching, Achievement of student etc.
- Social media: use of internet, impact of social media in learning, use of mobile phone by student etc.

Appendix: C

Class Observation Form

Name of school: ……. Date: …….

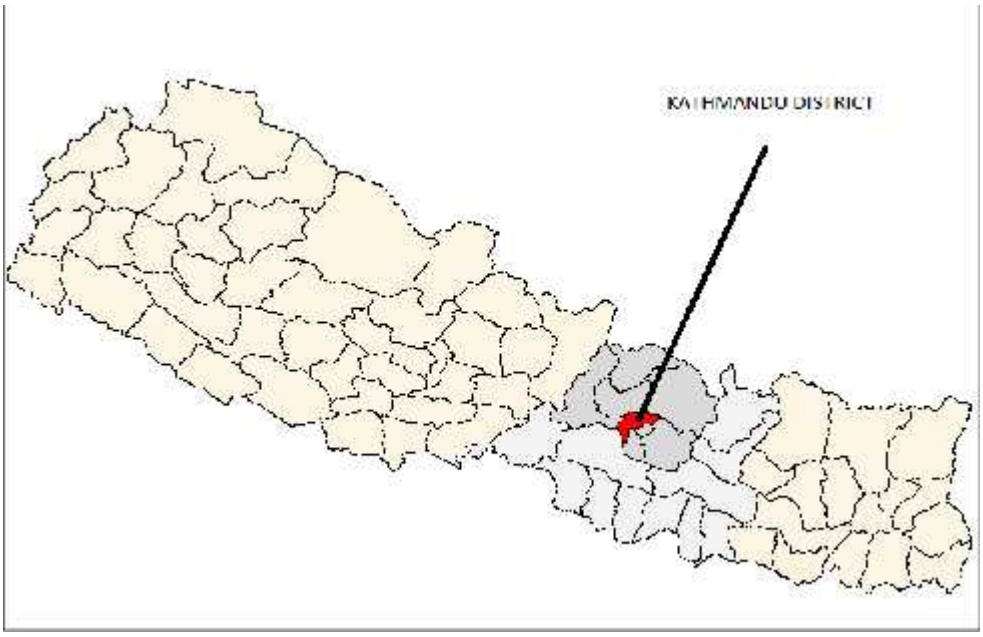
Name of the teacher: ……..

Gender: …….

Grade: …….. Period:….. Subject: …….. title: ……..

S.N.	Statements	Very good	Good	Satisfactory	Poor
1	Mathematical lab				
2	Graph,Chartpaper,Graph board				
3	Lighting of classroom				
4	Use of lesson plan on teaching				
5	Use of curriculum, textbook and reference				
6	Interaction of teacher and student				
7	Peer co-operation				
8	Assigning homework and class work				
9	Use of reinforcement				
10	Using problem solving method				
11	Content knowledge of teacher				
12	Student's participation on classroom discussion				
13	Use of instructional material related to subject matter				
14	Use of internet and electronic devices				
15	motivation				

16	Students' Evaluation				


KATHMANDU DISTRICT