

CHAPTER - I

INTRODUCTON

1.1 Background and Introduction

The word “mathematics is derived from an Greed Word ‘Mathancian’ which meant, “to learn”. So mathematics is a process of learning and it is an expression of human mind, concerned chiefly with ideas, processes and reasoning. Its basic elements are logic and intuition, analysis and construction; generality and individuality. It is a way of thinking, a way of organizing a logical proof. As a way of reasoning, it gives us insight into the power of the human mind and becomes a challenge to intellectual curiosity. It is a language in which we use diagram and symbols, instead of words. So mathematics is an organized structure of knowledge in which each proposition is deduced logically from previously proved propositions or assumptions and it comprises skill, techniques and arts by which man conveys ideas, concepts and fact.

"Pure mathematics involves the study and development of the principle of mathematics for their own sake and possible usefulness, rather than for their immediate usefulness in the field of science and knowledge. The study of mathematics independently of experience in other scholarly discipline often the study of problems in applied mathematics and leads to new development in pure mathematics and theories developed as pure mathematics often find application latter. Applied mathematics is a branch of mathematics concerned with the study of physical, biological, and sociological worlds, It includes mechanics of rigid and de-formable bodies, theory of electricity and magnetism, relatively, theory of potential, thermodynamics, biomathematics and statistics. Broadly speaking a mathematical structure utilizing, in addition to the purely mathematics concepts of space and numbers the notions of time and matter belong to the domain of applied mathematics. In statistical sense, the term refers to the use of mathematics

principles as tools in the fields of physics, chemistry, engineering, biology and social studies" (James, p. 239).

Benjamin Pierces one of the best of the American trained mathematician said that "Mathematics is the science which draws necessary conclusions."

About the aspects of teaching, Bhatia and Bhatia said, "Teaching is establishing a harmonious relationship between teacher, pupil and subject, it is giving useful information. It is causing the child to learn. It is the stimulation and direction of learning, it is helping the child to make effective adjustments, it is guiding the pupil activity and it is training of his emotions." (B.D. Bhatia and Kamala Bhatia, p. 40).

Further, speaking about good teaching Rammers and others said that it follows these five steps.

- The teacher analyzes the individual pupil's capacities, knowledge, past experience, interest and needs.
- The teacher analyzes the pupil's goals and encourages him to revise his goals in accordance with his capacities.
- The teacher harmonizes the educational process with the pupil's capacities and goals.
- The teacher evaluates the pupil's progress in term of his capacities and goals.
- The teacher and the pupils working together reconsider the revised goals in the light of the progress achieved and strive to correct.

Weakness which would interfere with the attainment of reasonable goals. (H.H. Remmers, p.13).

About the participation of mathematics teachers in professional activities Bhatia and Bhatia said, "A Mathematics teacher should become a member of local, state and national organization of mathematics teachers. Besides, he should read Journals and news about the latest developments and trends in the teaching of mathematics. He should be interested in arranging work-shop. Seminars and

meeting of mathematics teachers to be able to share and contribute to discussions of the latest trends in mathematics teaching gather ideas and write articles for reading and use by other mathematics teacher.” (B.D. Bhatia and Bhatia 1986-87 p.353)

About the pedagogical significance of physical setting, Goetting said, "The physical setting of the classroom can be justified also on pedagogical grounds, physical well-being and comfortable and pleasant working conditions are essential to satisfactory achievement of pupils. Maximum mental efficiency requires physical well being of pupils. Maladjusted temperature and humidity in the classroom make for discomfort, inattention, and lower standards of work classroom atmosphere. Which has an unconscious but nonetheless real influence upon school work is partly physical in nature. Neatness and other in the arrangement at the classroom, as well as attractiveness in it's color scheme and artistic appointments are definitely known to influence morale, discipline, and efficiency of pupils achievement.” (M.L. Goetting 1941, p.44)

In a study "Secondary Education in Nepal", by CERID. It is remarked; "Secondary School in Nepal Suffer from Serious constraints of physical facilities. Most school buildings are in need of repair and many of them are unsuitable for instructional purposes classroom, lack adequate provision for ventilation, furniture and teaching aids. Library and laboratory facilities are either not existent or are in a very poor shape. Text books are often the only source of instruction." (Kathmandu CERID, Tribhuvan University 1988, p. 3).

Further, about the methods of instruction in "Secondary Education in Nepal," CERID the study revealed. "Most of the teaching in secondary school consists of lecturing, rote memorization and group reciting. Student interaction and question answer techniques are rarely practiced. Little opportunity is provided for independent study, laboratory experience, community study, working with ones hand and so on. The causes responsible for this state of affairs are mostly

connected with lack of training among the teachers' large class size in urban areas and poor physical facilities in rural school." (Ibid, p.3)

About the Importance of instructional materials in teaching, Servais and Varga said that the value of concrete materials is high and it allows the pupil to acquire mental experience at his own pace outside the authority of teacher, well-designed materials can assist to a certain extent and protect his unspoiled creativity from adult knowledge which has become a little stale by constant repetition. For mathematical teaching aids to fulfill their purpose, they must be manipulated by the pupils themselves, thus helping them to clarify, coordinate, and organize their ideas. Different logical construction games can play significant role to encourage pupil's activity and save teaching time. (W. Servais and T.Varoas, UNESCO, 1971, p. 95)

Mathematics has played a very important role in building up modern civilization by perfecting all science. Even though, people have only vague idea that all progress made by man in the result of scientific progress, they are strongly in favor of scientific and industrial education. This emphasis is confined to sciences such as physics, chemistry, biology, medicine and engineering and mathematics which is a science by any criterion and which rightfully belongs to this group, has not been accepted and emphasized as a science and without which these sciences would not have made much progress. It has been very properly said about mathematics, "It is a science of all sciences and art of all arts." It is the pivot of all the sciences and arts (Sidhu, K.B. p. 27)

The encyclopedia states that "Mathematics education has been accepted as a component of formal education from ancient period. It occupies a well established position in the school curriculum of all countries." (Encyclopedia of Education, 1985).

Mathematics is only one of many subjects which are included in the school curriculum, yet there is greater pressure for children to succeed at mathematics then for example, at history or geography, even though it is generally accepted that

these subjects should also form part of the curriculum. This suggests that mathematics is in some way thought to be of especial importance. If we ask why this should be so, one of the reasons which is frequently given is that mathematics is 'useful' it is clear that this usefulness is in some way seen, to be of a different kind from that of many other subjects in the curriculum. The usefulness of mathematics is perceived in different ways. For many it is seen in terms of the arithmetic skills which are needed for use at home or in the office or workshop. Some see mathematics as the basis of scientific development and modern technology some emphasize the increasing use of mathematics techniques as a management tool in commerce and industry. (Dr. W.H. Cockcroft).

To overcome the various numerical counting and calculating problems, men themselves created and developed mathematical structure, rules, formulae, etc through the empirical observations and experiences. It also originated with the practical experiences and various phenomena is special mathematics education helps in the scientific invention with education and experiment. Thus there is a great role of mathematics in the creation of modern science and technology.

As defined by Roger Bacon, Mathematics is essential for understanding every discipline without knowledge of mathematics it is very difficult for better understanding of the other disciplines like economics, physics and chemistry and so on. "Mathematics is the gate and Key of science which neglects mathematics works injury to all knowledge since who is ignorant of it cannot know the other sciences or things of the world and what is worse, men who are thus ignorant are unable to perceive own ignorance and so do not seek a remedy" (Sidhu, K.B, p. 26)

Mathematics is a powerful instrument that man is crossing many complicated problems easily in his daily life. Hence the quotation "the necessity is the mother of inventions" implies that man could organize the different fact and relation in systematic order and could bring mathematical education to this advance level. So human beings without mathematics education is like as birds

without wings. It is realizing the facts of prime necessities of mathematics for human beings its teaching formal education is prevalent through out the world.

In Nepal mathematical education could get success to enter in the modern education system since 1854 A.D. Mathematical education formally started only after the dawn of democracy in 1951 A.D. (NNEPC 2011) reported that compulsory mathematics was in the curriculum of multipurpose secondary school. Advanced mathematics was also included in the college preparatory area of the vocational works. (ARNEC-2018) had recommended including compulsory mathematics as well as optional mathematics in arts and science school but only mathematics was optional in vocational and Sanskrit schools ARNEC had set the pass marks 40% of the total full marks. (NESP-2028) The school curriculum was refined and a total change was made as stated in the NESP-2028 "A well ground understanding of mathematics is essential for everyday life as well as for higher study in the field of science and technology Mathematics like language is a basic tool of communication daily transaction and communication involve the frequent use of mathematical concept thus it is quite natural that mathematics is given a very important place, secondly to language in school education students apply mathematical concepts, skills and logical reasoning to solve different kinds of problems not only as students but also as adults later on".

Present mathematical curriculum of lower secondary level was implemented since 2055 according to the recommendations of NEC (2049). The syllabus consists of different topics such as Set number system, Arithmetic, Algebra, Geometry, mensuration, transformation, bearing and scale Drawing and Statistics. In the present context, the books published and recommended by HMG have been taught in government schools. Private school has been teaching privately published books based on HMG recommended curriculums. Textbooks are used as only major tools to achieve the objectives of the curriculum. Hence the importance of text book is not only the tools of curriculums but also the

determiner of evaluation system. Therefore that mistake in the textbook may create problems to the teachers directly.

Because of financial problems we could not afford money to instructional materials and equipments. We have no proper facility to create teaching learning environment due to the lack of curriculum and reference books in library and well managed classrooms. A teacher is bounded to face problem as above mentioned.

The purpose of the present study was to investigate the kinds and extends of problems faced by teachers in executing instructional activities in mathematics class of lower secondary level of grade VI. VII and VII in Syangja district. Question answer techniques are rarely practiced. Little opportunity is provided for independent study, laboratory, experience, community study working with one hand and so on. The causes responsible for this state of affairs are mostly connected with lack of running among the teacher's large class size in urban areas and poor physical facilities in rural schools.

About the modern mathematics classroom Bhatia and Bhatia said that the teachers' tools have insisted of chalk, blackboard, red pencil and text book. However the emphases today is to use of demonstration models of various shapes and size, slide rulers, overhead projectors, drawing instruments, rapes, stencils, measuring instruments and many pictures, pamphlets, books and mathematical magazines, films, slides, manipulative kits, teaching machines and computers are beings used in teaching mathematics in the modern classroom. (B.D. Bhatia, 19, p.353)

In our country textbooks are used as only as major tools to achieve the objectives of the curriculum because of financial problems our schools could not produce and afford money to spend in materials and equipments facilities that are essential for teaching and learning activities are not available in substantial amount some schools do not even have enough classrooms. A large number of students are packed in small classroom often the roof leaks.

The purpose of the present study was to explore the kinds and extents of problems faced by teachers in executing instructional activities in mathematics classes of the

lower secondary level in the district of Syangja. So my study is focused on exploring the problems they face while teaching.

1.2 Statement of the Problem

The study attempts to explore and analyze the problems felt by lower secondary level mathematics teachers of Syangja district. Specially, the study intends to answer the following questions.

- a. What are the problems faced by the mathematics teachers in teaching mathematics at the lower secondary level of Syangja district?
- b. Do the problems faced by the mathematics teachers in rural schools differ from urban schools?

1.3 Significance of the Study

There are much confusion among the teachers who are teaching mathematics at lower secondary level schools. Problems may arise because of the confusion about the subject matter content and about the optimal procedures to present them to the students. Problems also arise because of the lack of knowledge about the classroom management. The study will contribute a lot in identifying problems and thus, help teachers to cope with the problems once they know what they are. It is further, investigation that the study helps the concerned personnel's to take decisions which help alternative the problems faced by the teachers. Thus the study is significant for the reason that it will help to provide the information to the concerned agencies to reform the math education in lower secondary level. General significance of this study has been mentioned below:

- a. To recognize the confusion of teacher who are teaching mathematics at lower secondary level.
- b. To identify the problems faced by lower secondary level's teachers.
- c. To help the school administration and nation to fulfill commitment of world conference "Education for all."

1.4 Objectives of the Study

The objectives of the study are:

- a. To identify the problems faced by lower secondary level mathematics teachers in teaching mathematics.
- b. To compare the problems faced by the lower secondary level mathematics teachers teaching at rural schools and urban schools.

1.5 Statement of the Research Hypothesis

The research hypothesis formulated for this study was as follows.

- a. There is significant different between the extent of problems faced by rural teachers and urban teachers.

The corresponding statistical hypothesis is as follow.

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 \neq \mu_2$$

Where μ_1 and μ_2 are the corresponding parametric mean weightage score of rural school teacher and urban school teachers respectively.

1.6. Definition of the Terms

Urban Schools:- The lower secondary or secondary and H.S. school inside the Putali Bazar Municipality and near Siddhartha Highway of Syangja district.

Rural Schools:- The lower secondary or secondary school and H.S.S. out side the Putali Bazar Municipality.

Teacher:- The teacher is the person who teacher mathematics at grade VI, VII and VIII of the Syangja district.

Private Schools: - Private schools are those schools which do not receive any financial support of government of Nepal.

Curriculum:- The Curriculum approved in this study refers to the curriculum approved by Government of Nepal, curriculum centre for grade VI, VII and VII in schools of Nepal.

1.7 Limitations of the Study

The limitations of the study were as follows.

- i. The study was limited to Syangja district.
- ii. The study limitation of only for lower secondary level.
- iii. The study is concerned only with classroom teaching problems of lower secondary level mathematics teachers.
- iii. The questionnaires are developed in terms of developed conceptual framework.

CHAPTER - II

REVIEW OF RELATED LITERATURE

Several studies and researchers have discussed about the problem faced by mathematics teachers in teaching mathematics. The researchers have taken many variables such as achievements of students' mathematics attitudes of students and teachers towards mathematics, effectiveness of studies relevant to the present study are reviewed.

Baral (2001), studied "Pblems of Mathematics teacher in the implementation of compulsory mathematics curriculum in grade IX". The population of his study was the teachers of Chitwan district. Forty-four teachers were chosen in the study. The questionnaire consisting sixty-six items related to the problem of mathematics teachers in teaching mathematics at grade IX was the

major tools of the study. He concluded that there are many problems in teaching compulsory mathematics at grade IX in Chitwan district. For example:

- The gaps between weak and talent student create problems in teaching.
- Time period is not sufficient to complete the course as designed in curriculum.

Lamichhane H.N. (2001), studied "Problems of the secondary mathematics teachers in teaching mathematics". He found that major problem that causes teachers in inefficient to execute their duty property inside and out side the classroom.

Lamichane D.P. (2005), studied "Problems of mathematics teachers of primary level at grade IV". He concluded that there are so many problems that cause teacher inefficient to hold their job in Kathmandu district.

Subedi (2001) study entitled "A comparative study of achievements in mathematics of primary level students" due to teachers' gender in teaching was based on 16 teachers and 160 students of grade-V from sixteen schools of Syangja district. He concluded that students taught by male teacher had better achievement than those students taught by female teacher. Similarly students taught by male teacher had better achievement than those students taught by female teacher in primary level at urban area as well as rural areas.

Amatya (1978), made a comparative study on the "Effectiveness of teaching mathematics with and without the use of instructional materials". The study concluded that the achievement of students taught by using instructional materials is significantly higher than the achievement of the students taught without instructional materials.

Sharma (2000), Studied "A study on the availability and use of Instructional materials in Teaching Mathematics at the primary school of Parbat District of Nepal". He concluded that the availability of the materials was not found very encouraging in most of the schools except in the case of some materials such as meter scale, compass, clock model and abacus.

Timilsina N.P. (2004), in his research on "Mathematics achievement of secondary level students taught by teachers with and without teacher education background". Concluded that the mean score of the students taught by teacher education background was higher than the mean scores of the students taught by the teacher with out education background.

Paudel, B (2006), in his research on "A comparative study on mathematics achievement of secondary level students taught by trained and untrained teachers" concluded that the mean scores of the students taught by trained teacher were higher than the mean scores of the students taught by untrained teachers.

Dhakal, T.P. (2009), in his research on "A comparative study of mathematics achievement at send up examination and S.L.C. examination". concluded that the mean achievement score of the S.L.C. examination was higher than the send up examination.

Pathak (1986), in his research on "The problems faced by the teachers in Kathmandu district in the implementation of mathematics curriculum for Lower Secondary School". He concluded that most of the teachers of Kathmandu district have not been facing problems in the selection and use of instructional materials but they are facing problems in selecting proper evaluation devices.

From the review of the available literature, the researcher found that no such studies based on Lower Secondary Level have been completed. Hence, this study was concerned on problems faced by "Lower Secondary Mathematics Teachers in Teaching Mathematics at Syangja District." The review of related literature will guide researcher in this research.

CHAPTER - III

METHODOLOGY

This chapter describes in detail the procedure involved design of study, population and sample, conceptual framework, instrument, data collection procedure and data analysis procedure are presented in details.

3.1 Design of the Study

The design of the study is of descriptive survey type. For data collection, the researcher visited each of the sampled schools along with the questionnaire. After getting permission from head master/principal of the school, the researcher

requested to subject teacher to fill up the form. The researcher himself was present when the questionnaires were being completed by the teacher. Thus, the data were collected in the months of August, and September 2010.

3.2 Population and Sample

The population of the study constituted the mathematics teachers at the lower secondary level of Syangja District. According to educational statistics of Syangja, 2067. There are 63 lower secondary schools, 73 secondary school and 69 Higher Secondary School. There are 205 schools in total. Out of them 94 are in urban and 111 are in rural. Out of them 10% schools are selected randomly each strata. There are all together 20 mathematics teachers teaching mathematics in those schools are include in sample which shows in table.

Table -1

	Population	Sample
Urban	94	10
Rural	111	10

They are altogether twenty teachers teaching mathematics in those schools and they were the subjects of the present study table-2, in a nutshell the schools, the academic and experience profiles of the teachers.

Table - 2

Distribution of Samples

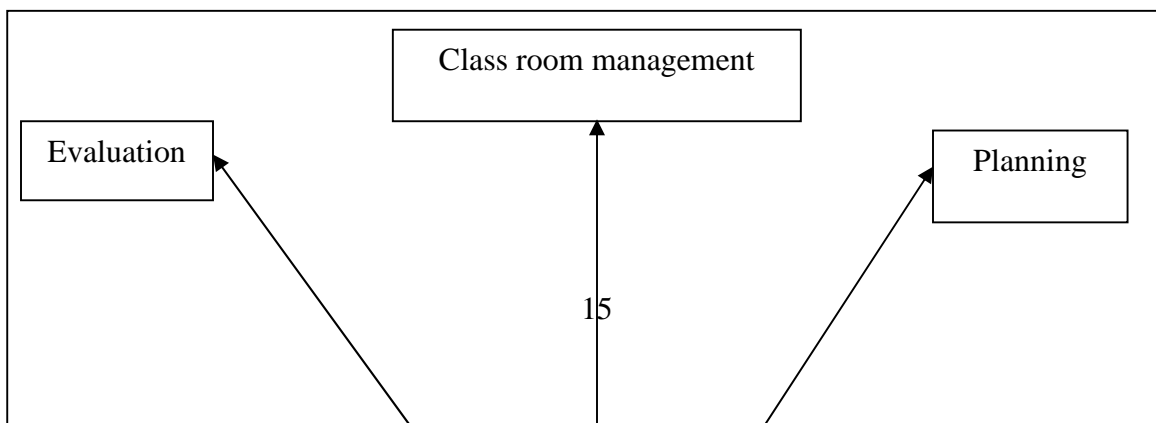
Sample Characteristics	Number
1. Location of schools	
a) Urban	10
b) Rural	10
2. Teachers Training	

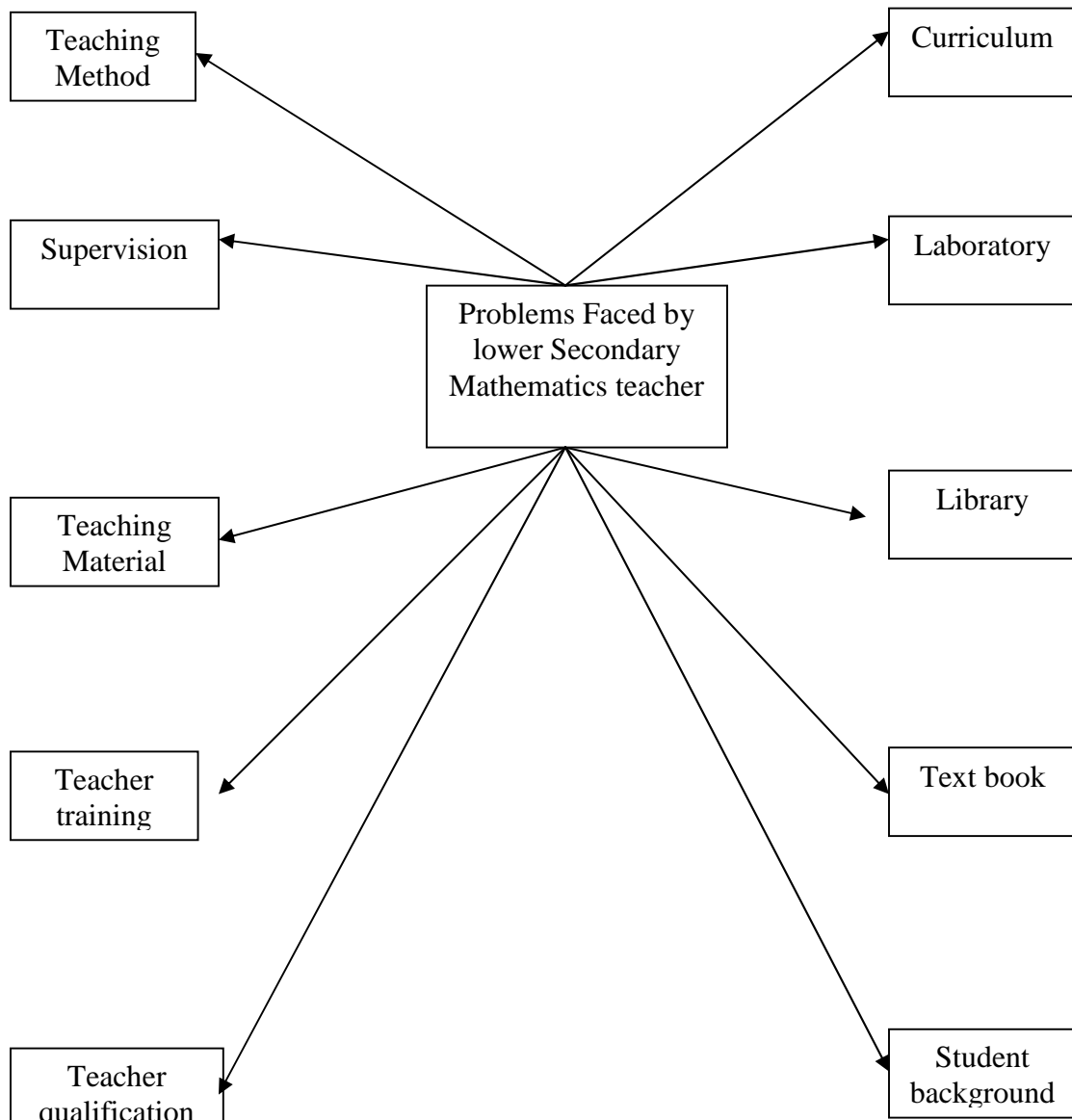
a) Trained Teachers	14
b) Untrained Teachers	6
3. Academic Qualification	
a) Intermediate	03
b) Graduate	14
c) Post- Graduate	03
4. Years of Experiences	
a) 1 to 5 years	03
b) 6 to 10 years	05
c) 11 to 15 years	08
d) 16 to 20 years	02
e) 21 to 25 years	
f) 26 to 30 years	01
g) 30 above	01

For a detailed description of the schools and the teachers, see Appendix A(I) and A(II).

3.3 Conceptual Framework

The questionnaire are constructing according to the following conceptual framework of problem faced by lower secondary mathematics teachers in teaching mathematics shown by the following ways:





3.4 Instruments / tools

A questionnaire was major tools for data collection in this study. The questionnaire consisted of forty-one statements of problems faced mathematics teachers related to curriculum, textbooks, teaching method, classroom management student background, evaluation and examination procedure, supervision in math class room, homework, teachers training and personal problems of teacher the questionnaire is given in Appendix-B.

3.5 Data Collection Procedure

Researcher carried out a sample of 20 maths teachers each from rural and urban schools including government and boarding schools of Syangja district. The researcher distributed the questionnaire to the teacher and asked to response over each item of questionnaire by using (✓) mark to an appropriate column of five point likert scale ranking from strongly agree, agree, undecided, disagree, strongly disagree questionnaire had additional column for confuse question fourty one items of problems were included in the questionnaire. Split half method is a familiar method of testing the reliability of a test. In this method score obtained from the questionnaire are split into two-half viz. Score obtained from even numbered item and scores obtained from odd number items the reliability of questionnaire. Weightage of 5, 4, 3, 2 and 1 were assigned to a statement if the response is "Strongly agree", "agree", "undecided", "disagree" does indicate to the existence of problem. Weightage were assigned in reverse order i.e. 1 for "Strongly agree" and 5 for strongly "disagree' where a response of "Strongly disagree' or "disagree" does indicate a problem.

3.6 Data Analysis Procedure

The obtained data were analyzed and interpreted with the help of following statistical techniques.

- i) Mean was used to locate the central position of the responses to the statements of the teachers as a whole in the rating scale. The average rank score is calculated as follow.

$$\text{Average Rank} = \frac{\text{Total Rank Score of a Statement}}{\text{Number of Teachers}}$$

Each statement was studied in terms of whether the teacher perceived it as a problem or not by analyzing the position of the arrange response index in the rating scale. If the calculated index is grater than 3, then it is concluded

that the statement content is a problem. If the Index measure is less than or equal to 3, then it is not a problem.

- ii) The Mann-whitney U-test was used to investigate the significant difference of it exists, between mean rank scores of urban teachers and rural teachers towards the responses to the statements.

The value of combined samples, N_1 and N_2 are ranked from the lowest to the highest rank, irrespective of groups, rank 1 to the lowest score, rank 2 to the next lowest, and so forth.

Then the ranks of each sample group are summed individually and represented as $\sum R_1$ and $\sum R_2$. The following procedure is followed to the hypothesis.

$$\text{Find, } U_1 = N_1N_2 + \frac{N_1(N_1+1)}{2} - \sum R_1$$

$$\text{and } U_2 = N_1N_2 + \frac{N_2(N_2+1)}{2} - \sum R_2$$

Where, N_1 = Number of one group

N_2 = Number of the another group

$\sum R_1$ = Sum of ranks in one group

$\sum R_2$ = Sum of ranks in another group.

It is smaller value of U test is used when consulting the Mann-whitney U table. The Z-value of U is determined by the formula.

$$Z = \frac{U - \frac{N_1N_2}{2}}{\sqrt{\frac{(N_1)(N_2)(N_1 + N_2 + 1)}{12}}}$$

- iii) The level of significance, α IS SET AT 0.05

CHAPTER - IV

ANALYSIS AND INTERPRETATION

This chapter contains both analysis as well as interpretation of data. The analysis was carried out under the responses received through the questionnaire from the teachers were organized, tabulated, analyzed and interpreted. It analyzed under the following sections:

- i. Analysis of responses and observations to discern whether or not the respondents perceived the statements as problems or not.
- ii. Comparison of the problems faced by the lower secondary level mathematics teachers teaching at rural and urban schools.

4.1 Analysis of Responses

The researcher has taken the real problem to those items, which had mean scores above 3.0. Table -3 shows the distribution of the mean weightages in the rating scale and response of percentages for each of the statements included in the questionnaire. For a detail description of the distribution of responses, see table-3. Further to make the analysis and interpretation sample, the five point scale was terminate to three, combining "Strongly agree" and "agree" into a single category and similarly, "disagree" and strongly 'disagree' into one.

Table - 3

Distribution of Mean responses and Percentage within Questionnaire

Statement No.	Response Number and (Percentage)					Mean Weightage	Remarksit is a problem
	SA	A	U	DA	SDA		
1	0	7 (35%)	3(15%)	8(40%)	2(10%)	2.75	No
2	8(40%)	8(40%)	2(10%)	2(10%)	0	4.3	Yes
3	7(35%)	8(40%)	0	5(25%)	0	3.85	Yes
4	4(20%)	10(50%)	2(10%)	4(20%)	0	2.3	No
5	3(15%)	11(55%)	2(10%)	4(20%)	0	3.6	Yes
6	2(10%)	5(25%)	0	4(20%)	9(45%)	3.65	Yes
7	2(10%)	5(25%)	2(10%)	6(30%)	5(25%)	2.65	No
8	2(10%)	3(15%)	2(10%)	5(25%)	8(40%)	3.7	Yes

9	5(25%)	6(30%)	2(10%)	2(10%)	4(20%)	2.25	No
10	4(20%)	10(50%)	1(5%)	4(20%)	1(5%)	3.2	Yes
11	4(20%)	11(55%)	0	4(20%)	1(5%)	3.2	Yes
12	2(10%)	14(70%)	0	3(15%)	1(5%)	3.1	Yes
13	3(15%)	7(25%)	3(15%)	7(35%)	0	3.15	Yes
14	3(15%)	1(5%)	0	7(35%)	9(45%)	3.9	Yes
15	3(15%)	11(55%)	3(15%)	2(10%)	2(10%)	3.0	Yes
16	1(5%)	8(40%)	3(15%)	6(30%)	2(10%)	3.0	Yes
17	0	3(15%)	2(10%)	13(65%)	2(10%)	2.3	No
18	2(10%)	15(75%)	0	2(10%)	1(5%)	2.35	No
19	0	0	0	10(50%)	10(50%)	1.5	No
20	1(5%)	2(10%)	4(20%)	10(50%)	3(15%)	3.8	Yes
21	2(10%)	6(30%)	6(30%)	6(30%)	0	3.2	Yes
22	0	6(30%)	1(5%)	11(55%)	2(10%)	3.45	Yes
23	1(5%)	2(10%)	4(20%)	9(45%)	4(16%)	2.45	No
24	0	3(15%)	2(10%)	15(75%)	0	3.6	Yes
25	0	16 (80%)	0	4(20%)	0	3.4	Yes
26	1(5%)	7(35%)	1(5%)	8(40%)	3(15%)	3.75	Yes
28	8(40%)	13(65%)	0	7(35%)	0	2.7	No
29	3(15%)	8(40%)	5(25%)	4(20%)	0	3.5	Yes
30	5(25%)	8(40%)	2(10%)	4(20%)	1(5%)	2.4	No
31	6(30%)	8(40%)	5(25%)	1(5%)	0	3.95	Yes
32	2(10%)	10(50%)	4(20%)	4(20%)	0	2.5	No
33	8(40%)	8(40%)	2(10%)	2(20%)	0	4.1	Yes
34	2(10%)	5(25%)	2(10%)	11(55%)	0	2.5	No
35	3(15%)	3(15%)	4(20%)	10(50%)	0	3.05	Yes
36	8(40%)	10(50%)	0	1(5%)	1(5%)	4.054	Yes
37	3(15%)	10(50%)	4(20%)	2(10%)	1(5%)	3.6	Yes
38	2(10%)	2(10%)	1(5%)	8(40%)	7(35%)	3.8	Yes

Grand Total

Where, SA: Strongly Agree, A: Agree, U: Undecided, DA: Disagree
SDA: Strongly Disagree.

$$\begin{aligned}\text{Grand Mean} &= \frac{119.05}{38} \\ &= 3.1328947\end{aligned}$$

From the table - 3 it is concluded that the mathematics teachers, in general were of the opinion that classroom of lower secondary level are crowded about one-thirds (35%) of teachers agreed that they faced problems in their instructional activity because of crowded classroom. Only 15 percent of teachers were undecided and half of the teachers, (50%) claimed that they did not face the problem. As a whole, an average measure of the order of 2.75 in the rating scale of the response indicates that the crowded classroom is not indeed a significant it is not a problem.

About the second statement whether the classroom is well lighted and ventilated, 80 percent teachers agreed that they faced problems in their instructional activity because of classrooms were not well lighted and ventilated. Only 10 percent of teachers were undecided. Only ten percent of the teachers claimed that they were not facing any problem of classroom is well lighted and ventilated. A weightage of 4.3 in the rating scale of the response indicates that the classroom is well lighted and ventilated is, indeed a significant problem.

In response of the third statement, the classroom is neat and clean 75% of teachers agreed that the classroom is neat and clean only 25 percent of teachers were of the opinion that the maintenance of classroom was not satisfactory enough, Besides, the mean weightage of the order of 3.85 in the rating scale indicates that the classroom is neat and clean is indeed, a problem.

About the fourth statement the blackboard shines and inadequate 70% of the teachers agreed that the blackboards in the classroom shine and inadequate. Only twenty percent of the teacher claimed that they were not facing any problem in using the blackboard. Only 10% of the teachers were undecided. The mean weightage of the order of 2.3 in the rating scale is in resonance to the majority of

teachers were undecided the mean weightage of the order of 2.3 in the rating scale is in resonance to the majority of teachers response.

About the fifth statement, the furniture are adequate 75% of the teacher agreed that the furniture are adequate only 20% were of the opinion that the furniture are not adequate. Only 10% of the teachers were undecided. The mean weightage is of the order of 3.6 in the rating scales of the teachers showing that the unavailability of the furniture are adequate was really a problem felt by teachers.

The sixth statement is about the existence of a separate mathematics classroom. It is found that 65% teachers were disagreed and 35% teachers were agreed. The mean weightage of the order of 3.65 in the rating scale indicates that there is a separate room for mathematics instruction no one of the schools included in the samples had a separate mathematics classroom.

About the seventh statement, most of the teachers 55% disagreed only 35% teachers were agreed that shows there are a graph board and bulletin boards available in his class. The mean weightage of 2.65 in the rating scale, indeed, indicated that the room is equipped with a graph board and bulletin board facility is not adequate at all.

About the 8th statement and it's mean weightage of 3.7 indicates that there is a genuine problem in teaching mathematics in the absence of teaching machines such as calculators, computers etc.

The 9th statement is about the mathematics laboratory. Majority of the teachers agreed that there is no facility of mathematics laboratory. The teachers felt that occasion across when mathematics can not be taught effectively and meaningfully because of the non-existence of a laboratory.

On the tenth statement about the library facility, 25% of the teachers said that the provision of library was not satisfactory at all. A response position corresponding to 3.2 in the rating scale indeed, a problem indicated that the library facility is not adequate at all.

On the question about the availability of reference books and magazines on the education of mathematics, 25% of the respondents indicated that their availability is not enough and satisfactory. Seventy five percent indicated that their availability is not sufficient at all on the problem rating scale, the average response stood at the point 3.65 showing that the unavailability of the reference books and magazines was really a problem felt by teachers.

About the 12th statement weather or not the course contents of the respondents did not agree that it could be. An average measure of 3.1 in the rating scale indicates to the fact that the course contents are too long. Similarly, 23% of the respondents disagreed that the course contents in the 8th grade cannot be covered within the time. A mean weightage of 2.53 shows that there is not a problem to finish the course of 8th grade within the stipulated time.

On the 13th statement about the availability of teacher's guide book, majority of the respondents said that it was available. On the rating scale of the extent of problem measurement the mean response stood of the point 3.15 indicating that did not concern about the availability of teacher's guide book, it was a problem. but the teacher had following comments to make:

- 76% of the teachers commented that the guide is not appropriate and relevant to their needs.
- 64% said that the guide is easy to use.
- 56% said that it was useful and illustrative even though not very relevant to their immediate needs.
- 44% pointed to the fact that many mistakes have crept into the printing.

In answer to the 15th statement, 4 (20%) teacher out of 20 answered that they are not used to making yearly and unit plans because they are not cognizant about how to do it. But 16 teachers out of 20(i.e. 80%) claimed that they do prepare yearly and unit plans before the commencement of the academic year. The mean weightage of magnitude 3.9 indicates that preparing plans (yearly and unit) propose a great problem. But 15th statement, about the lesson plan 70% of the

respondents said that they make daily lesson plans. Only 20% of the teachers claimed that they make daily lesson plane. The mean weightage 3.0 indicates that it is a problem. The teachers who not make daily lesson plans gave the following reasons.

- 73% of respondents said that they have heavy teaching load to spare time to make daily lesson plan.
- 43% of respondents said that it is cumbersome and is not practical.
- Only 10% of respondents said that they have no idea.

About the 16th statement, "The curriculum of lower secondary level is not relevant to student's needs". 45% of respondents agreed with the statement, 40% of respondents disagreed and only 15% of respondents were undecided with the statement. The mean weightage 3.0 indicates that the curriculum of lower secondary level is not relevant to the student's needs in the eyes of the sampled teachers.

On the 17th statement 15% of the respondents agreed that the curriculum does not encourage new methods of teaching to incorporate into their teaching strategy. But 50% of respondents disagreed and the mean weightage 2.3 indicates the teachers view, the curriculum, as it is, does not stand on their way to try new approaches.

In the statement some of the units are difficult to teach 87% of respondents agreed. Only 13% of respondents disagreed and the mean weightage 3.25 indicates that it is a significant problem. Further most of the teachers expressed that they found difficulty to teach the following topics:

Transformation of class-8. In unit 28 there are not given rules for reflection although problems are presented. Unit -12 of class -7 are difficult to teach because of the concept was not solid figure and materials are not available to make and solve. Rotation and symmetry, bearing and scale drawing chapter is difficult because they have not basic concept of units.

About the statement "I do not practice individual teaching, 53% of the respondents agreed and 43% of the respondents disagreed and the mean weightage 3.1 indicates that there is a problem to practice individual teaching. Further some of the teachers expressed that they found classroom is set up multicultural social student having different needs, interest level of knowledge and there lack of time and teaching aids and other related problem, son in public school it is too much problematic.

Some of the teachers gave reasons for not doing so as large class size and lengthy course.

Some of the teachers gave reasons for not doing so because curriculum changes time to time so teacher should be confident to teach mathematics.

In the 18th statement, 85% of the respondents agreed that they do make frequent use of instructional materials. But 15% of respondents disagreed and mean weightage 2.35 indicates that there is no problem of instructional materials.

In the 19th statement, I don't believe in using materials. 100% respondents disagreed mean weightage 1.5 indicates that there is problems don't believe in using materials.

In answer to the 20th statement 15% of the respondents agreed. But 65% of the respondents were disagreed. Only 20% of the respondents were undecided the mean weightage 3.8 indicates that there is a problem get encouragement and suggestions to make and use materials.

About the 21th statement, the materials are not available and suggestions to make and use materials, 40% of the respondents were agreed and 60% of the respondents were disagreed. The mean weightage 3.2 indicates that there is problems materials are not available and founds required are not easy to get.

About the 22th statement 30% of the respondents were agreed and 70% of the respondents were disagreed. The mean Weightage 3.45 indicates that there is a problem by using materials, consumers a lot of time and course could not be finished in time about the 23th statement 15% of respondents agreed that they are

frustrated disillusioned and unmotivated to continue teach mathematics 65% respondents disagreed. The mean weightage 2.45 indicates that there is no problem among the mathematics teacher community to continue the career as a mathematics teacher.

About the 24th statement 15% respondents agreed students are not motivated to learn mathematics, 75% respondents were disagreed. The mean weightage 3.6 indicates that students are not motivated to learn mathematics indeed a problem to get objectives.

About the 25th statement 64% respondents agreed students do not have required background the mean weightage 3.6 indicates that students do not have required background and enthusiasm.

About the 26th statement, 40% of the respondents agreed students are not disciplined and 55% respondents disagreed students are not disciplined. The mean weightages 3.75 indicates it is a problem.

About the 27th statement, 55% of the respondents agreed students are not laborious. But 35% respondents disagreed only 10% of the respondent undecided. The mean weightage 3.25 indicates that it is a great problem.

About the 28th statement 65% respondents agreed student are not interested. But 35% respondents disagreed students are not interested. The mean weightage 2.7 indicates that it is not problem.

About the 29th statement 55% of respondents agreed that they are trained mathematics teacher. Only 20% of respondents were not. The mean weightage 3.5 indicates that there is a problem t4raining of teachers is concerned.

About the 30th statement, 65% respondents said that the training was very useful and relevant. The mean weightage 2.4 indicates that it is not a problem.

About the 31th statement 70% respondents said that the training programme improved their teaching performance. The mean weighted 3.95 indicates that it is a problem.

About the 32th statement 60% of the respondents said that they felt confident on their ability to teach after the training.

About the 33th statement 80% of respondents said that they need further refresher short time training. All the untrained teachers expressed that they aspire for training. The mean weightage 4.1 indicates that it is a problem.

About the 34th statement, only 405 of the teachers agreed that the supervisor visit frequently. But majority of the teachers disagreed. The mean weightage of 3.4 shows that there is a problem because of the rate of the rare visit of the supervisors. All of the respondents said that subject supervisor is necessary.

About the 35th statement, 50% of the teachers said that supervisor does not help to solve professional problem. The mean weightage 3.5 shows that there is a problem because supervisor does not help to solve professional problem.

About the 36th Statement 80% of the teachers said that need of subject supervisor. The mean weightage 4.15 shows that it is a problem need of subject supervisors.

According to the response to the 37th statement, 65% of the teachers agreed that the school administration is helpful in keeping their moral high in the profession. 20% were undecided. Only 15% were disagreed. The mean weightage 3.6 indicates that mathematics teachers faced problems from the school administration.

About the 38th statement, only 20% of respondents agreed that they do not like to be a mathematics teacher. But 60% of the teachers disagreed only 5% of the teachers were undecided. The mean weightage 3.8 indicates that the mathematics teachers are not quite happy with their present status.

The questionnaire includes an open ended question towards the end in which teachers were requested to express only other problem other than explained in the statements. A list of the statement determined as problems or otherwise, hindrances to the profession voted by more than 50% of the respondents are as follows:

- Teaching loads are huge.

- Class size is large.
- Lesson plans are difficult to construct and follow accordingly.
- Because of much course contents and less class periods available than required a teacher is left with less options. Other than finishing the course at any cost.
- Provision or opportunities should be providing where mathematics teachers could sit, contemplate and interact about the problem and recommend optimal solutions and alternatives to the problems.
- Workshops or short time training and refresh courses should be provided to deal with the newly added topics.

4.2 Comparison of rural Teacher's and Urban Teachers Problems

The second objective of the study was to compare the "rural teachers and urban teachers" problems. In order to achieve this objectives. The following hypothesis was formulated "There is a significant difference between the rural teachers' problem and urban teachers' problem."

The table -4 shows item- wise distribution of mean response of the rural and urban school teachers also ranks of rural and urban teachers.

In compliance to Mann Whitney U- test, the mean responses of combined samples, N_1 and N_2 were ranked from the lowest to the highest rank irrespective of groups rank 1 to the lowest score, rank 2 to the next lowest and so forth.

Table - 4

Item-wise Distribution of mean Responses and Rank of the Rural and Urban School Teachers' Problems.

Statement No	Rural School Teachers Mean Response	Problem	Rank	Urban Schools teachers mean Response	Problem	Rank
1	2.63	No	28	3.46	Yes	53
2	3.53	yes	57.5	2.26	No	16

3	2.5	No	22	2.68	No	32.5
4	3.20	Yes	45	3.75	Yes	61.5
5	2.25	No	14	3.5	Yes	54
6	3.80	Yes	63	3.53	Yes	57.5
7	3.20	Yes	45	3.15	Yes	41
8	4.53	Yes	76	4.40	Yes	72
9	3.53	Yes	57.5	3.53	Yes	57.5
10	3.20	Yes	45	3.13	Yes	38
11	3.13	Yes	38	3.43	yes	52
12	3.20	Yes	45	3.53	Yes	57.5
13	2.40	No	18	2.60	No	26
14	2.13	No	12	2.53	No	23.5
15	2.25	No	14	2.25	No	14
16	3.40	Yes	49	3.53	Yes	57.5
17	2.43	No	20	2.60	No	26
18	2.45	No	21	3.40	Yes	49
19	3.00	Yes	36	3.43	Yes	52
20	3.04	Yes	49	2.60	No	26
21	3.15	Yes	41	3.15	Yes	41
22	3.05	Yes	37	3.86	Yes	67.5
23	2.06	No	9.5	2.40	No	18
24	3.20	Yes	45	3.45	Yes	52
25	1.90	No	5.5	1.90	No	5.5
26	1.25	No	1	1.50	No	3
27	3.75	Yes	61.5	3.83	yes	65
28	4.0	Yes	69	3.53	Yes	57.5
29	3.83	yes	65	3.83	yes	65
30	2.93	No	34.5	3.86	Yes	67.5
31	2.40	No	18	2.68	No	32.5
32	2.53	No	23.5	2.06	No	9.5

33	4.40	Yes	72	4.53	yes	76
34	2.93	No	34.5	2.66	No	29.5
35	2.66	No	29.5	3.13	Yes	38
36	2.06	No	9.5	2.06	No	9.5
37	1.80	No	4.5	1.80	No	4.5
38	1.96	No	7	1.46	No	2
	$\sum \bar{X} = 2.90$		$\sum R = 1322$	$\sum \bar{X}_1 = 3.02$		$\sum R_2 = 1510$

Table - 4 clearly shows that there exists a wide difference between rural teachers mean response and urban teachers mean response. It is concluded that the classroom of urban schools. It is concluded that the classrooms of urban schools are more crowded than rural schools. Similarly, the blackboards of rural schools are more shiny and inadequate than those of urban schools. Most of the urban teachers felt that the curriculum doesn't encourage new methods of teaching but rural teachers felt opposite. Similarly, most of the urban teachers do practice individual teaching but rural teachers did not practice individual teaching at all.

We have,

$$\begin{aligned}
 U_1 &= N_1 N_2 + \frac{N_1(N_1 + 1)}{2} - \sum R_1 \\
 &= 38 \times 38 + \frac{38 \times 39}{2} - 1322 \\
 &= 1444 + \frac{1482}{2} - 1322 \\
 &= 1444 + 741 - 1322 \\
 &= 863
 \end{aligned}$$

$$U_2 = N_1 N_2 + \frac{N_2(N_2 + 1)}{2} - \sum R_2$$

$$\begin{aligned}
&= 38 \times 38 + \frac{38 \times 39}{2} - 1510 \\
&= 1444 + \frac{1482}{2} - 1510 \\
&= 1444 + 741 - 1510 \\
&= 675
\end{aligned}$$

$$Z = \frac{U_1 - \frac{N_1 N_2}{2}}{\sqrt{\frac{N_1 N_2 (N_1 + N_2 + 1)}{12}}} = \frac{863 - 741}{\sqrt{\frac{1444 \times 77}{12}}} = \frac{122}{\sqrt{9.2656667}} = \frac{122}{3.0439} = 40.080$$

It is evident from the table - 4 that the computed Z-value 0.50 is greater than table value (1.96 < 40.08). It means that the null hypothesis is rejected. Therefore there is no significance difference between the problems faced by Urban School Teachers and Rural Schools Teachers.

CHAPTER - V

SUMMARY OF FINDINGS, CONCLUSIONS, SUGGESTIONS AND RECOMMENDATION

5.1 Summary of Findings

The study was carried out to study the problems faced by the lower secondary level mathematics teachers in teaching mathematics and to compare the problem pattern of lower secondary level urban and rural teachers in Syangja district during academic year 2010.

Summary of the findings which directly or indirectly cause inconveniences or discomforts to the teachers in executing their duties with honesty and efficiency is outlined as follows.

- The classroom is well lighted and ventilated especially in rural areas.
- The school and classroom environments are not conducive to student growth, both physically and academically.
- None of the schools surveyed has facility of separate classroom exclusively for use of mathematical activities.
- Library facilities are not adequate in most of the schools surveyed.
- Most of the teachers complain that the course of 8th grade could not be completed with in the time allocated.
- The curriculum is silence on new and scientific techniques used on evaluation and examination.
- Time period is not sufficient to complete the course as designed in curriculum.
- The curriculum is not helpful to teachers for selecting appropriate teaching method, selecting suitable teaching material and evaluation procedure.
- Printing errors of recommended books have made confusion.
- The teachers are not enthusiastic to prepare the lesson plans either because they lack the knowledge or because they are short of time.
- Weak students create slow speed in teaching learning process.
- The gaps between weak and talent students create problems in teaching.
- Most of the teachers feel that some of the units are difficult to teach.
- The teachers do not pay individual attention to pupils because of the large class size.
- Most of the teachers are not happy with the students. They find them not laborious, disciplined, motivated or enthusiastic.
- Due to lack of discipline, teaching, learning process became difficult.
- Single method is not suitable to each content due to lack of limited number of question, students can not practice completely.
- Guardians do not take the result seriously.
- Copying of talent students' homework is a great problem.

- Completeness of the homework is only for talent students.
- Due to over work load teacher can not check home work properly.
- Daily homework causes over work load to students.
- Especially boarding schools teacher has not seen any supervisor.
- Supervision by resource person or school inspector in government school is not so effective.
- There are not sufficient supervisors.
- Supervisors do not give proper suggestions.
- Supervisors do not take actions on the mistakes of teachers.
- Training opportunity is rare.
- There is baseness in the involvement of training.
- No orientation training for new curriculum based textbooks.
- In boarding school, training exists only in words.
- The trained teachers look forward for further short term training or refresher course.
- The untrained teachers highly aspire for meaningful training.
- Chance to be permanent is rare.
- Salary in boarding school is not based upon the government rule.
- In rural areas schools there is overload of work.
- They have low social prestige.
- Opportunity of career development is very low.
- The teachers are of the opinion that they could not benefit very much from the field supervisors either because they are not competent or because of their rare visit.
- Desired reference books are not available in schools.
- There is no proper management to make lesson plan.
- Administrators discriminate to their staff.

- There is no significant difference in the pattern of the problems faced by rural and urban teachers.

5.2 Suggestions

On the light of the finding described the researcher makes the following suggestions.

- Minimize the student number in a class near about 40 students in each class.
- School need to be provided with a separate mathematics classroom where equipments such as computers, calculators, and teaching materials could be stored in.
- There is a dearth need for short term workshop and training where the teachers could be exposed to the science of making materials and using them.
- A district level orientation programmed should be conducted for mathematics teachers to make them familiar with the new curriculum and its other aspects.
- Frequent short time training facilities should be provided to upgrade the teachers.
- Supervision and guidance programmed should be revised and tailored to the immediate needs of the teachers.
- The text books should be revised to make it error free and made turned to in accordance to the criteria followed in writing a text book.
- Use of lesson plans should be encouraged.
- Much greater attention needs to be given to the matter of individual differences in ability among the students.

5.3 Conclusions

The researcher claims that there are so many problems that cause teachers inefficient and unenthusiastic to execute there duty properly inside and outside the classroom. Most of the problems should their face because of inadequacies of text

books and teacher's guide, lack of instructional materials, irrelevancy of teacher's training lack of supervisory help, lack of physical facilities and highly enrolment of students in school etc. Preparedness and the level of motivation to learn mathematics are poor on the part of the students.

5.4 Recommendations

The researcher makes the following recommendation :

- Similar studies be executed in other parts of Nepal as well as other subject area.
- Proper immediate remedies should be taken into consideration to address the concerns to minimize the problems felt by the lower secondary level teachers and there by, uplifting or upgrading the lower secondary level mathematics programmed of Nepal.
- A nation level study should be conducted taking population and samples adequately large in order to obtain more valid and findings.

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APPENDIX - A (I)
SAMPLE SCHOOLS

Rural Schools

1. Shree Bhabishya Nirman Ma. Vi. Oraste Thangahira.
2. Shree Kolma Higher Secondary School.
3. Shree Bharati Ma.Vi. Kolma Kalkhu.
4. Shree Baraha Janasharm Secondary School Rangbhang 4.
5. Shree Bhoj Prakash Higher Secondary School Kichanas Syangja.
6. Shree Divya Prakash Higher Secondary School
7. Shree Nu. Bahakot Ma.Vi. Bahakot- 3 Syangja.
8. Shree Khudi Lower Secondary School Oraste- 5.
9. Shree Arniko Ma.Vi. Rangbhang.
10. Shree Adrbhut Ma.Vi. Kichanas Chakma.

Urban Schools.

1. Shree Tribhuvan Adrasha Higehr Secondary School, Putali Bazar Municipality Syangja.
2. Shree Kaji Man Hari Tika H.S.S. Syangja
3. Shree Roshani English H.S School Syangja.
4. Shree Choodamani Memorial E.bs Syangja.
5. Shree Damgade Secondary School Phadekhola.
6. Shree Bhu.Pu. Sainik H.S.B.S.Syangha.
7. Shree Joyti S.B.S. Syangja.
8. Shree Dhurbodaya Lower Secondary E.B.S., Lamaga, Syagja.
9. Shree Sarban Ma.Vi. Lamaga Syangja.
10. Shree Siddratha H.S.School Phedikhola Syangja.

APPENDIX - A (II)**SAMPLE TEACHERS PROFILES**

S.N	Teachers Name	Qualification	Years of Experience
1	Humanath Paudel	BA/B.Ed	12 years
2	Rajesh Pokhrel	BA/B.Ed	18 years
3	prakash Malla	MA/B.Ed	10 years
4	Dhan Prasad Gurung	B.Ed	1 years
5	Bhoj Raj Sharma	MA/B.Ed	14 years
6	Bishnu Prasad Poudel	B.A	6 years
7	Reshi Ram Sharma	B.A/B.Ed	15 years
8	Giree Prasad Upadhya	B.A.	14 years
9	Hem Chandra Pokhrel	B.A./B.Ed	17 years
10	Prakash Regmi	B.Ed	1 years
11	Rajendra Kumar Khand	B.A/B.Ed	12 years
12	Krishna Prasad Paudel	M.Ed	8 years
13	Shyam Krishna Shrestha	B.Ed	32 years
14	Dibakar Sharma	I.A	26 years
15	Subarna Luitel	I.Sc	1 eyars
16	Bipan Poudel	I.A	14 years
17	Chandra Kanta Pokhrel	MA/B.Ed	14 years
18	Hem Lal Dhakal	B.Ed	14 years
19	Jitandra Jha	I.Ed	7 years
20	Shanker Poudel	B.B.S	6 years

APPENDIX-B

A STUDY ON PROBLEMS FACED BY LOWER SECONDARY MATHEMATICS TEACHERS IN TEACHING MATHEMATICS (Questionnaire)

Date: _____

Name: _____ Qualification: _____

Name of School: _____

Year of Experience: _____

Dear, respectable teacher.

This is a humble request to you to read each of the statement described in the questionnaire carefully and express, honestly your opinion by putting tick (\checkmark) mark at this appropriate space. Where, SA (strongly Agree) A (Agree), U (undecided), DA (Disagree) and SDA (strongly Disagree).

S.N	Statements	SA	A	U	Da	SDA
1.	The Mathematics classroom are crowded.					
2.	The classroom is well lighted and ventilated.					
3.	The classroom is neat and clean.					
4.	The blackboard shines and inadequate					
5.	The furniture are adequate.					
6.	There is a separate room for mathematics instruction.					
7.	The room is equipped with a graph board and bulletin board.					
8.	Teaching machines and computers are available in mathematics classroom.					
9.	There is mathematics laboratory.					
10	Library facility is available.					
11.	Reference books and magazines are available.					
12.	The text book of grade 6, 7 and 8 can be covered within the stipulated time					
13.	The teacher guide book is available. If yes					
	i. easy to use.					
	ii. Relevant to your needs.					
	iii. Useful and illustrative					
	iv. No printing mistakes.					
14.	I don't make plane (yearly as well as unit) because I do not know how to do it.					
15.	I make daily lesson plans.					
	i. It is not practicable.					
	ii. I don't have the required know how to do it.					

	ii. I don't make lesson plans because it is cumbersome and impractical					
	iii. Heavy teaching load.					
16.	The curriculum of lower secondary level is not relevant to student's needs					
17.	The curriculum doesn't encourage new methods of teaching.					
18.	I make and frequent use of instructional materials (other than text book and guides) to motivate my students and make mathematics more meaningful.					
19.	I don't believe in using materials.					
20.	Don't get encouragement and suggestion to make and use materials.					
21.	The materials are not available and funds required are not easy to get.					
22.	Instruction by using materials, consumes a lot of time and courses could not be finished in time.					
23.	Often (sometimes), I get frustrated, disillusioned and unmotivated to teach mathematics.					
24.	Students are not motivated to learn mathematics.					
25.	Students do not have required background.					
26.	Students are not disciplined.					
27.	Students are not laborious					
28.	Students are not interested.					
29.	I am trained mathematics teacher if you agree					
30.	The training programmed was very useful.					
31.	The training programmed improved my teaching performance.					
32.	I felt confident to teach after the training.					
33.	Need of refresher training.					
34.	Supervisor visit frequently.					
35.	Supervisor help you to solve professional problems					
36.	Need of subject supervisor.					
37.	The school administration is helpful in keeping my moral high to continue in my work.					
38.	I do not like to be a mathematics teacher					
39.	Some of the units are difficult to teach if you agree which units and why?					
40.	I do not practice individual teaching. If agree. Why?					
41.	Any other problems.					

Thanks for your help

