

Chapter I

INTRODUCTION

Background of the Study

The word mathematics derived from the Greek word mathema. Mathema means learning of study of science. Mathematics is a science of number and space. Which use every activities of human life. It's born was same as human born in the world. But mathematics developed from different civilization and different time of human being such as Greek, Babylonian, and Egyptian .Mathematics developed the need, interest of the society.

Education in Nepal was long based on Home-Schooling and Gurukulas. The first formal school Durbar school established by the Jung Bahadur Rana in 1910 A.D But the formal education in Nepal was systematically organized after acceptance of democracy in 1971 A.D, as the same time mathematics curriculum was also developed as the foundation of systematic learning of math. All Round National Education Commission (ARNEC, 1961 A.D) and National Education System Plan of Nepal (NESP, 1971 A.D) etc were appeared in front of education system of Nepal. Among them NEAP (1971-1975) played a significant role in education development because of introducing a scientific education system. NESP (1971) advocate the teaching curriculum, materials, method as well as use and significance of teacher's guide in teaching which is the example of teaching manual.

Teaching manual are written book which gives teacher knowledge about the own field. In the another word teacher manual is this types book which suggested teacher to selected teaching content sequence, method suitable, materials and learning activities according to the student interior in classroom. The teacher's manual has all information you need to being teaching the logic of every subject immediately. Teacher guide and Textbook are the example of teacher manual. Teaching manual

designed those teachers' whose are many years of experience as they become familiar with content and related field. Teaching manual gives teacher different kind of knowledge related to the field. It is the important material to fulfill the objectives of curriculum. It helps the teacher to manage classroom, to evaluation of student etc. This study was focused to identify the perception of teachers towards the use of teaching manual. In the present time, there are various types of manual for competent teachers among them this study only focused on the teacher's guide and Textbook. It means, the study was completed on two most vitals examples of manual named as Teacher's guide and Textbook.

In Nepal, the education system, NESP was implemented in 1972 A.D. , which brought the concept of development and using teacher's guide along with the changing concept. NESP(1971) has clearly state that teachers guide has to be compulsorily preferred for all subject in school level (Sharma and Sharma, 2003:p.266).At present responsibility for the published and distribution of teacher's guide and Textbook of school level has been given to JanakShikhsyaSamagri Kendra after developing one piece by curriculum center ShanothimiBhaktapur.

Text books are important resource in teaching and learning for teachers and student as they get benefits from them. According to Hutchinson and Torres (1994), textbook provide input into classroom lessons in the form of text , activities, explanation, and so on. Teacher and student will get benefits when textbook is use in teaching and learning process (Harmer, 2007). Both teachers and student can look back from previous learning session to continue the next meeting in the textbook (O'neill,1982).

It means textbook used in teaching and learning process and it is important for teacher and students have them. Teachers then consider textbooks to be important in their teaching and learning process that they tend to use textbook in their whole

teaching and learning process without selecting and adapting appropriate materials for their student.

Statement of the Problem

A statement of the problem is used in research work as a claim that outlines the problem addressed by a study. Mathematics is one of the major branch of knowledge. It provides logical and critical capacity to individual. It is use full in human daily life as well as advancement of science and technology. By realizing the important of mathematics each secondary school all over the world has been given more value to mathematics and introduced mathematics as compulsory subject in secondary level. In the same way government of Nepal has also provisioned mathematics as compulsory subject in secondary level. Although mathematics as compulsory, it cannot fulfill the student needs for learning and technology in future. There for government has also provisioned mathematics as the optional subject. Parents, teacher, and society have high expectation from the students. The problem of the study is mainly concerned with the teacher's perception towards use of teaching manual and comparison on perception of community and institutional schools of mathematics teacher Secondary level. So the study has explored answer along the following research question:

-) What is the perception of institutional school mathematics teacher's towards the use of teaching manual?
-) What is the perception of community school mathematics teacher's towards the use of teaching manual?
-) Do the community schools mathematics teacher's perceptions differ from the institutional school mathematics teacher's to use of teaching manual?

Objectives of the Study

The main objectives of the study were as follows:

-) To identify mathematics teacher's perception towards use of teaching manual.
-) To compare the perception of community and institution school mathematics teacher's towards use of teaching manual.

Research Hypothesis

The research hypothesis formulated for the study as follows:

There is positive perception of community and institutional school mathematics teacher's towards use of teaching manual.

Statistical Hypothesis

The following statistical hypotheses were considered to verify the mentioned research.

Null Hypothesis

$H_0: \mu_1 = \mu_2$ There is no significance difference between perception of mathematics teacher towards use of teaching manual in community and institutional school.

Alternative Hypothesis

$H_1: \mu_1 \neq \mu_2$ there is significance different between perceptions of mathematics teacher's towards use of teaching manual in community and institutional school.

Where,

μ_1 = parametric mean perception score of community school.

μ_2 = parametric perception score of institutional school.

Signification of the study

Mathematics is an essential part of the curriculum. So, every student should study. It has been taught for all pupils as a compulsory subject at school as well as optional subject. Teaching mathematics is difficult and challenging because it's nature course content , social need , student interest and explosion of new field of knowledge but in the present time many research works are completed to identify difficulties and related solution of mathematics learning. This study will construct to investigate the teacher's perception towards teaching manual of mathematics teacher secondary level. This study provides the information teaching manual while using in mathematics classroom for mathematics teacher. This study also opens the door for the further researcher in the field of improving the curriculum of both levels school in mathematics. Also help to the education planner, educational administrators and other concerned person for the further educational strategies, the study was the relevant and contextual at present.

Mainly, the significance of this study as follows:

-) This study would be helpful to get information about the important role of teacher's guide in secondary level.
-) This study would be helpful to get information about the important role of textbook in secondary level.
-) It would help to improve teaching learning strategies for the teachers.
-) It would help to provide valuable information to the text –book writer, evolution and planner to being improving teacher's guide and Textbook.
-) It would help further researcher to research another subject matter related to this topic.

Delimitation of the study

-) To accomplish the objective of the study, the researcher selected only the teacher's guide and textbook as the teaching manual.
-) This is the survey design having a group of 130 teachers in secondary level from kanchanpur district.
-) This study focused only mathematics teacher's perception towards use of teaching manual in mathematics teacher.
-) The data collection be completed within 30 day, include the development of data collection tolls, pilot study and determination of reliability and validity tools.

Definition of Operational Terms

perception: perception is a strong feeling or belief about something that everyone thinks is true. An attitude is an affective feeling of a person coming from his intuition. Attitude is largely cognitive in nature and is developed over a relatively long period of time. The term "attitude" is often used closely and synonymously with terms such as belief, disposition, opinion, attitude, philosophy and value, Tiwari, (2005).

Community school: The school which is established from the government conducted under national education policies and depends upon government and non-government organizations.

Institutional School: The school which is established from private ownership and managing for all physical and economic factors depend on self.

Teacher's Guide: A reference material that which gives guidelines to the teacher for effective class room teaching for basic and secondary level school.

Textbook: A book prepared for use in schools and colleges

Community school: The school which is established from the government conducted under national education policies and depends upon government and non-government organizations.

Institutional School: The school which is established from private ownership and managing for all physical and economic factors depend owns self.

Secondary school: Those school which are running through the class 9to 12.

Teacher: Those persons who are teaching mathematics at basic and secondary levels of community and institution schools.

Teaching: Teaching is the stimulation guidance, direction and encouragement of learning in secondary level of Nepal

Use: Take instructional manual, teacher's guide, guess paper, instructional materials on practices to improve secondary level mathematics teacher's teaching profession.

Chapter II

REVIEW OF RELATED LITERATURE

A collection body done in earlier scientists is technically called the literature. Any scientific investigation starts with review of literature. After selecting the topic of the research next important task is to gain generated the idea, helps in developing signification question and more knowledge about the subject matter covered by the topic.

The research for related literature is one of the first steps in the research process. It is valuable guide to defending the problem, recognizing its signification, suggesting promising data gathering device, appropriate study design and sources of data Best and Khan, (2006).

Empirical Literature

Bhatt, M. (2017) Conducted a study entitled "teachers attitude towards the use of teachers guide. The main objective of study to find the attitude of community and institutional school mathematics teachers toward the use of teachers guide, to compare the attitude of community and institutional schools mathematics teachers towards the use of teachers guide. He designs the method by observation and questionnaire, and discussion. This is quantitative in nature.

He select community and institution school 37 out of 389 in the Lalitpur district where community school 19 total mathematics teacher in 40 total mathematics teacher and institution school 17 total mathematics teacher 60 He used 30 closed-ended questionnaire These statement were positive and negative both. Also use Likert types scale used for the convenience of respondent under the five points SA, A, U, DA, SA. He used chi square test and t test under the quantitative and descriptive method chi square test was used to test the community and institution at school

mathematics teacher to wands use of teachers guide. Also t-test was use to compare the attitude of community and institution schools mathematics teacher to warded use of teachers guide. He found that among the 30 statements 23 statement have positive and 7 statement have negative attitude the researcher found teacher had positive attitude towards the use of teachers guide also there is no different between the attitude of mathematics teacher of community and instruction school towards the use of teacher guide the main conclusion of the researcher there dispositive attitude toward use of teachers guide at lower secondary and secondary level of Lalitpurdistrict The use of teachers guide support mathematics teacher to teach mathematics effectively in classroom.

Buddha,K.B. (2016) Conducted a study entitle “teachers attitudes using teachers guide at primary level” the main objects are to find out attitudes of primary level mathematics teacher toward teacher guide to compare the attitude of community school and institution school teacher about teachers guide. The researcher design in survey, analysis and comparative in nature this is a quantitative in nature.

The population of the study consists according to the record of DEO (Jajarkot). There were 15 community schools out up 278 and 15 institution school. In Jajarkot district one mathematics teachers from each school. The tool of this study questionnaire and structure interview the question that consist of statement among 15 negative and 15 positive statement related teachers guide. The attitude five points Likert scale type scale each statement there are five options like SA,A,U, DA, SA also he take interview the researcher asked 30 questionnaires to assess their opinion towards the teacher's guide of primary level. A presents the collected data Chi square test and t-test for data analysis respectively 1-30.He found that the mathematics teacher teaching at primary level positive attitude towards teacher guide of

compulsory mathematics .community teacher attitude towards teacher guide is better than instructional school teacher to run the classroom effectively. The researcher conclusion that there is positive attitude of teacher about guide in the all over study. Between the attitudes of different groups Jajarkot district has positive attitude towards the teacher guide use of teachers guide teachers to run the classroom effective.

Ghimire,B. (2011) conducted a study entitled “mathematics teacher belief and attitude towards the use of lesson plan in secondary school. With the objectives are to investigate the belief and attitude of mathematics teachers toward the use of lesson plan in the public and private school. To compare the belief and attitude of mathematics teacher toward the use of lesson plan in public and private school to find the causes of not using lesson plan in classroom teaching. He applied quantitative. Survey type descriptive research design.

He selected 25 public and private school out of 77 school in Arghakhachi district also 25 school divided in to two part s 15 public and 10 privative school at last one teacher of mathematics selected every school . He 25 statement was develop for each item s the Likert attitude scale of SA,A,N,DA,DA were used the statistical tool Chi-square test was use to find the opinion of the teachers toward use the lesson plan in public and private school also t- test signification difference between mean scores and opinion of public school and private school teacher tougher with rural and urban area .The researcher found that there was a positive belief and attitude of secondary school mathematics towards use of lesson plan in the public school. There is no positive belief and attitude of secondary school mathematics teacher towards use of lesson plan in privative school. There is a significant different between public and privative school mathematics teacher believes and attitude towards use of lesson plan. The practical aspect of the teacher in the classroom was not related to the belief and attitude toward use of lesson plan. He concluded that every mathematics teacher must

use of lesson plan in teaching mathematics for effective and meaningful learning must be positive towards the use of lesson plan. The number of student should be properly kept in the classroom.

Shah,B.K.(2017) conducted a study entitled “attitude of student towards homework at lower secondary level in mathematics” the object of the study to find out the attitude of student towards homework at lower secondary level in mathematics to compare the attitudes of rural and urban student towards homework at lower secondary level in mathematics. He adopted the survey method.

In the study the population of the study was consisted of all the student lower secondary level in mathematics at Sun- sari district, sample of the study 376 urban and 319 rural school out of 695 in Sun sari district among them 5 (2 rural and 3 urban) lower secondary school with 100 urban student and 100 rural student were chosen randomly. He collected the data with the help of 20 statement each statement has five option of Likert scale method also he had selected five lower secondary school teachers purposively of the interview about home work of student the present the collected data Chi square test and t-test data analysis respectively question 1 to 30. He found that all statement was positive attitude towards homework at lower secondary level student s in mathematics. Most of teacher always provides homework to the student but they do not check and write the comments and suggestion after given homework. So the students are weak and fail in mathematics even though they had positive attitude towards homework in mathematics. He conclusion that teacher view about homework, given suggestion after checking homework. Homework is essential part student learning and evaluation.

Subedi,K. (2011) studies on “teacher attitude towards lower secondary school mathematics curriculum” with the objective that to find out attitude of mathematics teachers towards lower secondary mathematics curriculum to compare the attitude of

rural and urban public schools teachers towards lower secondary level mathematics curriculum.

The research design was survey and descriptive in nature. All the mathematics teachers teaching at lower secondary level in public school of parbat district were considered as the population. 30 schools were selected purposively for teacher as sample of the study. There were 16 schools and 14 urban schools. The collection the data for this study was developing with the help of the set of opinionative about mathematics curriculum for lower secondary level mathematics teacher. The opinions were consisting of thirty statements. The collection of data for the study had done with the help of questionnaire. Chi- square test and t- test were applied to analysis the data. The conclusion the study were positive attitude toward lower secondary school mathematics curriculum and no signification difference between attitude rural and urban public school teacher towards lower secondary mathematics curriculum. The mentioned study was different to mine study as population, sampling, procedure and research area only.

School mathematics curriculum “Selected thirty one teachers from secondary school from Tanahu district and concluded that there was a positive opinion of secondary school mathematics teacher towards secondary school mathematics curriculum. The secondary school mathematics curriculum is useful as well as appropriate. The public schools teacher opinion about mathematics curriculum is better than that of private school teachers. The rural public school teachers have positive attitude than that of the urban public school.

Theoretical Literature

Forroqui,S.(2008)teacher perception of textbook and teachers guide : A study in secondary education Bangladesh with this paper explores English language

teacher's perceptions on this textbook and the teacher guide. This study was qualitative in nature.

It is a case study costing of multiple holistic case (Yin, 2003) Where each single case considered as a typical but unique case the primary data for this article collected As part of the doctoral project of the doctor he selected 26 teacher selected from various schools selected in urban, semi urban, and rural areas of Bangladesh. Teacher interview from the basis of study according to McGrath(2006), he found that teacher are not in favor at teaching the textbook according to the teacher's guide .The reasons included class duration, large class size seating arrangement. proper proficiency of the student and the impact of SSC examination also the text book is very good. if teachers do all activities has been prescribed in teachers guide they will not be able to mark the student prepare for the SSC exam. The research conclusion for the text book and teachers guide is essential tools in delivering the new curriculum To the School in Bangladesh. The goal of this new curriculum is to teach student the use of the target language in every day communicative events.

Dagnew, (2011) studies the attitude of teacher towards the use of actively learning methods at Bahir Dar University. He found out that majority of the teachers involved in the study had good attitude towards the signification of active learning method as it enables English students to participate actively in English class, create desirable attitude towards communicative English, engage the student, and integrate their learning experience. he also found that majority of the teachers agreed that active learning enables student to experience, motivated by providing real life problem and helps class interaction. But the teachers disagreed that the active learning enables student to learn sufficient content in English language.

Perceptions of teacher towards teacher guide

Harden (2002, a cited in lea and Sara 2012) the purpose of study guide is to generated meaning learning. It offers a formal list of key topics on which the learner is required to well and also a list of skills the learner should master by the end of the study. According to Richards (1998 a cited in Forroqui, 2008) using the teacher guide can have positive and negative impacts. On one hand a teacher 's guide can play a vital role for improving classroom learning strategies and other hand, teacher ideas may be more useable then teacher guide. It is explicitly found from the argument of forroqui (2008) that the teacher guide is very helpful in guiding how to teach the textbook but it is not possible to teach all the activities of the text book according to the guideline provided in the teacher guide. To specify, the respondents of forroqui study expressed the following constraints of using teacher guide as follows

Time constrains

In the study of forroqui more of half of the participants interviewed that the main issue that creates time constrain for teachers in class, if the teachers are followers of teacher's guide then they finish their course on time.

Seating arrangements

The seating arrangement in the classroom is also is not appropriate for conducting pair work activities. Student sits are rows with disks facing the blackboards on long wooden branches, which line up and are bolted to the floor. There is hardly any space for the teachers to move around and see what the student are doing. Forroqui (2008) concludes that the teacher 's guide help to the teachers to manage classroom appropriately.

Conceptual Framework of the study

Conceptual framework is necessary part of research because it gives direction to the researcher for the complete their work systematically, analytically and comparatively. This study was related to the teacher perception towards use of teaching manual the help of above related literature already described. McGrath (2006), he found that teachers are not in favor at teaching the textbook according to teachers guide. The reasons included class duration, large size, setting arrangement. Proper proficiency of the student and the impact of SSC examination also the text book is very good etc. Also a researcher Bhatt.M (2017) on the topic teacher attitude towards the use of teacher's guide has given a conceptual framework to complete his study. Then the researcher was followed on his framework as necessary component only. So, study teachersperception towards use of teachers manual have the following conceptual framework to obtain the desired objectives of the research.

Fig. No. 1 : Conceptual Framework

Community school: The school which is established from the government conducted under national education policies and depends upon government and non-government organizations.

Institutional School: The school which is established from private ownership and managing for all physical and economic factors depend owns self.

Use of teaching manual : the teacher who are used text book and teacher guide teaching learning process .

Teaching material : teaching material are important because they credit of visual and interactive experience for the student .as the student become more engaged, the are more likely to understand the topic being thought .teacher being using visual audio and hands it's as early as pre-school.

Similarly, the researcher collects the information from both community and institutional school of Kanchanpur district about the perception using teaching manual and comparison was done for the valuable conclusion. Then the second objective was completed.

Chapter III

RESEARCH METHODS AND PROCEDURES

This chapter is designed for describing the methodology. Research mythology is useful bridge to solve the research problem in a systematic way. Methods- tools or techniques applied in the research process and procedure a way we put tools and techniques together in sequence or combinations to achieve objectives. In this chapter Design of the study, population of the study, sample of the study, tool of data collection, reliability and validity of tool, data collection procedure and analysis of interpretation of data are presented in detail.

Design of the Study

Morriam –Webster (2017) states research is careful study that is done to find report new knowledge about something. In this way the study was focused to find and report new knowledge about the teaching manual. Perceptions characteristics of something whose can measure under the survey method by observation, questionnaire and discussion. Thus the research design was survey under the quantitative in nature.

Population of the Study

The population of the study consists of all the community and institutional school of mathematics teacher of Kanchanpur district in the academic year 2075.

Sample of the study

Sampling is a vital part to make research valid and appropriate. The researcher intend investigatesecondary level mathematics teacher's perception towards use teaching manual in teaching mathematics and mathematics learning. At first the data of community and institution school was taken from DEO. The sample of study was 130 mathematics teacher's both schools. The samples of the study were selected by adopting purposive sampling strategy with the help of name list in schools. In which community and institutional school selected to fulfill the objectives of research.

Figure 2 : Short Frameworks of School and Teachers

(Source: Bhatt.M (2017)

Tools of Data Collection

It is an important part of the study. To fulfill the objectives, some necessary data should need so; there are many data collection tools. But I used questionnaire which are describe perception. Questionnaire is one of the important tools used for data collecting for the research. In this study the researcher had used 30 close ended questionnaires. Those statement were positive and negative statement were modified under the guide line from unpublished thesis Bhatt .M (2017). Liker't scale was used for the convenience of the respondents under the given points. For each statement five options are given to the respondents as of strongly agree (SA), agree (A), undecided (U), Disagree (D), and strongly Disagree (SD). And different weight age was given for each statement as 5, 4, 3, 2, and respectively. Also there are negative statements. Weight was given for each statement as 1, 2, 3,4and 5 respectively, strongly agree (SA), agree (A), undecided (U), Disagree (D), and strongly Disagree (SD).

Reliability and Validity of Tools

The research was conducted pilot study to group of 10 teachers those represent the population but not included in sample of study. Then the reliability of the data collection tool was insured by using chi-square test. The calculated value of chi-

square greater than tabulated value, then questions is reliability. The researcher used questionnaire supervisor and unpublished thesis Bhatt.M (2017).So question are already valid.

Data Collection Procedure

At first the researcher was taken a student card help from the department of mathematics education. Then the researcher was visited the DEO to consult the information about schools. For this briefing conducted to DEO about research work. Then by taking the student help card from the department from the department of mathematics education the researcher visited selected community and institutional school and talk about the research work to the head teacher. After a short talking with the head teacher the researcher was met mathematics teacher who are already teaching mathematics in that school. Being polite, the researcher establish a good relation to the teacher by giving introduction about the main intention. Then the researcher distributes questionnaires to the teacher by hopping to return it. Also some clue is given to teacher that to follow only tick marks on the basis of following hints: Strongly agree, agree, undecided, disagree and strongly disagree. Similarly, the researcher was visited t another selected school by distributing the questionnaire.

Procedure of Data Analysis

The data obtained by the above process, researcher question was analyzed by using Chi square– test. The teachers' perception gives numerical value on the basis of Liker’s scale, then average numerical value analyzed by Liker’s method. Chi Square- test be used to test the hypothesis at 0.05 signification levels was used to show the perception of the teaching manual for Secondary level. The first objective is fulfill.

$$\chi^2 = \frac{\phi(f_0 - f_e)^2}{f_e}$$

Where, f_0 = observed frequency

f_e = Expected frequency

That t –test was used to compare the perception of community and institutional schools mathematics teacher towards use of teachers manual. The second object was full fill. The responses of the teacher towards teaching manual had occurred by questionnaire.

Chapter IV

ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the collected data from the survey. The data collected for the study from community and institution secondary school at Kanchanpur district in the year 2075 B.S. to find out the mathematics teachers perception toward the use of teaching manual at secondary level and comparison perception between mathematics teachers community and institutional school mathematics teachers. For this it is already mentioned that the researcher was billed a tool as set of 30 question having positive and negative statement with five alternatives: - strongly agree, agree, undecided, disagree, and strongly disagree of Likert scale. The analysis of the study was carried out under the following two major headlines of objectives.

1. To identify mathematics teacher s perception towards use of teaching manual.
2. To compare the perception of community and institution school mathematics teacher towards use of teaching manual.

The chi-square test was used to the perception of teacher at 0.05 level of signification and t-test was used to compare the perception of community and institutional schools teacher. Moreover, all statement of the questionnaire was analysis and interpreted by using Likert scale as accepted, undecided and not accepted by obtaining the Value more than three, three and less than three respectively.

A) Teacher's perception towards use of teaching manual at secondary level in mathematics.

The researcher included thirty statements in the questionnaire set related to the teachers manual, where twenty three positive and seven negative statement of questionnaire. To identify mathematics teachers perception toward use of teaching manual. The chi-square test was calculated of the statement the researcher included agree percent and disagree percent of each statement which has given in Appendix- G also mean score of the each statement in Appendix –H. The chi-square of each statement at 0.05 level of signification has been given in following data

Table No. 1

Teacher's perception towards use of teaching manual at secondary level in mathematics

| Areas | S.N | Statements | Chi-square value | Decision |
|------------------------------|-----|---|------------------|----------|
| Curriculum And Content | 1 | The topics in teaching manual were arranged according to contents. | 24.13 | S |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | 123.192 | S |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 153.84 | S |
| | 4 | It is just a teaching manual, teacher guide and textbook. | 79.65 | S |
| | 5 | The weightage of marks of every topic for | 23.84 | S |

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|--------------------|----|--|--------|---|
| | | examination should be given in it. | | |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | 81 | S |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 180.53 | S |
| Teaching Materials | 8 | Teaching manual be better for both institutional and community schools mathematics teacher. | 201 | S |
| | 9 | The design and attractiveness of mathematics teaching manual of secondary level mathematics is good. | 129.53 | S |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 83.92 | S |
| | 11 | It becomes a real manual especially for the untrained teachers. | 59 | S |
| | 12 | Textbook teaching materials given in teacher | 177.76 | S |

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|---------------------|----|--|---------|---|
| | | manual are not suitable for context of Nepal. | | |
| Teaching Strategies | 13 | The figure is appropriate and useful for teacher. | 104.38 | S |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 76.5 | S |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | 85.61 | S |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 117.46 | S |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 33.76 | S |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teaching manual. | 102.461 | S |
| | 19 | Appropriate methods are not given to prepare teaching material. | 138.46 | S |

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|---|----|--|--------|---|
| Exercise, Formula and example | 20 | The examples given in teaching manual are related to the daily life activities and experiences of student. | 133.3 | S |
| | 21 | The additional exercise made the guide standard. | 185.61 | S |
| | 22 | The formulas and direction given to teach unit or topic are not sufficient. | 103.07 | S |
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | 96.3 | S |
| | 24 | The example and direction given to teach each unit or topics are sufficient. | 130.53 | S |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | 58.38 | S |
| | 26 | It should be easily available in the market. | 33.38 | S |
| | 27 | The teaching manual is costly. | 115.15 | S |
| | 28 | In this guide, there is no error in printing and language. | 203.19 | S |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching | 117.46 | S |

| | | | | |
|--|----|---|-------|---|
| | | learning activities given in it. | | |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 89.61 | S |

Critical region $\chi^2_{\alpha, v}$ $\chi^2_{0.05, 4}$ $\chi^2_{9.488}$

S=significant

α =level of significant

Δ =degree of freedom

χ^2 signification

Concept : A χ^2 statistic for two-way tables is sensitive to the strength of the observed relationship.

Definition

A p-value for a χ^2 statistic is the probability that the χ^2 value would be as large as it is (or larger) if really there were no relationship in the population.

From the above data the value of each statement greater than tabulated value of chi-square. It means clear that all the chi-square value of 30 closed ended statements are highly signification. It shows that mathematics teachers have positive perception towards use of teaching manual. From the appendix-G and H. The statement no-1 the topic in teaching manual were arranged according to contents”. In this statement 75.38% teacher are agree and 24.61% teacher are disagree. The mean score of the statement is 3.68 it concluded that teacher have positive perception in this statement. The statement no-2 the teaching manual helps to fulfill the objects of mathematics

curriculum. In this statement 73.07% agree and 26.92% teacher are disagree in this statement. The mean score of the statement is 3.68 it concluded that most of teacher had positive perception with different perception.

The statement no-3 Allocated time and weightage of every lesson are fixed, that helps the teacher to complete the course on time. In this statement 92.3% teachers agree, 6.93% teacher disagree and 0.76% teacher are undecided teacher of this statement. The mean score of the statement is 4.43 it concluded that most of teachers are agree of use teaching manual at secondary school level. The statement no -4 It is just a teaching manual, teacher guide and textbook. In this statement 27.69% teachers agree, 68.46% teacher are disagree and 3.84% teacher are undecided it show that this statement is rejected by teacher because the mean score of the statement is 3.35

The statement no-5 The weight age of marks of every topic for examination should be given in it. In this statement 30.76% teacher are agree , 54.61% teacher are disagree and 6.92% teacher are undecided the mean score 3.15 it shows that the teacher are not positive on it. It is the first statement in which most of the teachers are undecided comparison to other The statement no-6 The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher manual. In this statement 81.53% teacher are agree , 17.70% teacher are disagree and 0.76% teacher are undecided the mean score 3.97 it shows that most of the teacher are accepted the statement

The statement no-7 It has become the real guide for the teachers who are teaching compulsory mathematics at secondary level. In this statement 94.61% teacher are agree and 5.38% teachers disagree the mean score 4.44 it shows that most of the teacher are accepted the statement.

The statement no 8-“teaching manual be better for both community and institutional schools mathematics teacher”. In the statement 93.84% teacher are agree, 6.15% teacher are disagree and not undecided. In the statement the mean score is 4.56 it help the researcher to conclude that there is positive perception towards teaching manual. The statement no-9 “The design and attractiveness of mathematics teaching manual of secondary level mathematics is good”75.38% teacher are agree 23.84% teacher are disagree and 0.76% undecided .the mean score of the statement is 3.74 it concluded that the teacher have positive perception towards this statement

The statement no-10 it is not necessary for the teacher make daily lesson plan it is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. In this statement 26.15% teachers agree, 73.84% teacher are disagree. The mean score of the statement 3.97, this shows, that there are not positive perception teachers towards this statement. The statement no-11 It becomes a real manual especially for the untrained teachers. In this statement 63.84% teacher are agree , 36.15% teacher are disagree the mean score 3.58 it shows that most of the teacher are accepted the statement.

The statement no-12 Textbook teaching materials given in teacher manual are not suitable for context of Nepal. . In this statement 11.53 % teacher are agree, 86.15% teacher are disagree and 2.3% teacher are undecided the mean score 4.4 it shows that most of the teacher are not accepted the statement.

The statement no-13 the figures are appropriate and useful for teacher. In this statement 76.92% teachers agree, 21.53% teacher are disagree and 1.53% are undecided. The mean score of the statement is 3.6 so the researcher concluded there is position of this statement. The statement no-14 it would be more helpful for the teachers to make students more practicable if the model question sets were included in

it. in this statement 69.23 % teacher are agree , 30% teacher are disagree and 0.76% teacher undecided in the statement the mean score is 3.47 it shows that the teacher have positive perception toward on it.

The statement no-15 it is not always accompanied all the mathematics teacher because of its significance guidance. In this statement 22.3% teacher are agree , 73.84% teacher are disagree and 3.84% teacher are undecided the mean score 3.68 it concluded that teacher have positive perception toward this statement. The statement no-16 the objectives of each topic were arranged on the basis of their level of difficulty (simple to complex). 86.15% teachers are agree and 13.84% teacher are disagree. The mean score of the statement is 4.07 it concluded that teacher have positive perception toward this statement. The statement no-17 the manual is more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. In this statement 41.53% teacher are agree , 57.7% teacher are disagree and 0.76% teacher are undecided the mean score 2.78 it concluded that teacher have not positive perception toward this statement.

The statement no-18 the tactful solution for the difficult problem of the text book has not been given in teaching manual. in this statement 80 % teacher are agree and 20% teacher are disagree in the statement the mean score is 3.87 it shows that the teacher have positive perception towards this statement

The statement no-19 Appropriate methods are not given to prepare teaching material. In this statement 46.15 % teacher are agree , 53.17% teacher are disagree and 0.76% teacher are undecided the mean score of the statement is 3.1 it concluded that teacher have not positive perception toward this statement .Most of the teacher are not accepted the statement.

The statement no 20 the topics in teacher manual were arranged according to contents. In this statement 75.38% teacher are agree and 24.61% teacher are disagree. The mean score of the statement is 3.57 it concluded that teacher have positive perception in this statement. The statement no-21 “The additional exercise made the guide standard “in this statement 76.92%teacher agree, 17.69%teacher are disagree and 5.38%undecided. The mean score of the statement is 3.66 it concluded that the most of teacher had positive perception this statement.

The statement no-22The formulas and direction given to teach unit or topic are not sufficient. This statement 81.53% teachers agree, 17.69% teachers are disagree and 0.76% teacher are undecided. The mean score of the statement is 4.07 it helps the researcher to concluded that teacher have positive perception. The statement no-23 ample suggestion and hints are fixed, that help the teacher to finish the course in time. In this statement 78.46% teacher are agree , 21.56% teacher are disagree the mean score 4.04 it shows that most of the teacher are accepted the statement.

The statement no24 the example and direction given to teach each unit or topics are sufficient. . In this statement 85.38% teachers agree, 10.76%teacher are disagree. The mean score of the statement is 4.25 it means the teacher have positive perception towards this statement.

The statement no25 “The language of the teaching manual is not simple and difficult to understand. In this statement 53.07% teacher are agree, 46.25%teacher are disagree and 0.67% teacher are undecided. The mean score of the statement is 2.73 it shows that most of teacher are disagree on it is first statement of the researcher in which teacher are disagree. . The statement no-26 it should be easily available in the market. In this statement 48.46%agree, 46.15%disagreeand 5.38%undecided teacher of this statement. The mean score of the statement is 2.96 it concluded that teacher

had positive perception in this statement. . The statement no-27 the teaching manual is costly. In this statement 79.23% teachers agree, 20.26% teacher are disagree. The mean score of the statement is 3.76it means the teacher have positive perception towards this statement.

The statement no-28In this guide, there is no error in printing and language. In this statement 90% teacher are agree,8.47% teacher disagree and 1.53% teacher are undecided the mean score of the statement is 4.08 it shows that teacher have positive perception towards of this statement. The statement no-29The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities giver in it in this statement 73.84% teacher are agree, 16.92%teacher are disagree and 2.3%teacher are undecided the mean score of the statement is 3.89 it concluded that teacher have positive perception of this statement.

The statement no-30Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. In this statement 76.92% teacher are agree , 23.07% teacher are disagree the mean score 3.79 it shows that most of the teacher are accepted the statement.

Form the above analysis each statement was highly significant among the 30 statement.23 statement have positive and 7 statement have negative perception of community and institutional school mathematics teachers. The average 63.97% % teachers are agree, 34.71%teacher are disagree also The average mean score of the statements is 3.748, hence, the researcher was found teacher have positive perception towards use of teaching manual on the study of Sabin farooqui, the researcher concluded from the above Analysis and interpretation that most of the teacher have positive perception towards the use of teaching manual in community and institutional school at secondary level in mathematics of kanchanpur district.

b) To compare the perception of community and institution school mathematics teacher’s towards use of teaching manual

The community and institutional school mathematics teachers were asked 30 statement belonging towards use of teaching manual. In this study the researcher established two objectives. Among them first objectives previously analyzed by using chi square test but the second objectives compare the perception of community and institution school mathematics teacher’s towards use of teaching manual for this purpose the research has constructive null hypothesis and alternative hypothesis, the tabulated value is greater than the calculated value it means that null hypothesis is accepted. There is no signification difference between perception of mathematics teacher towards use of teaching manual in community and institutional school. To verify the hypothesis the attitude score of the community and institution school mathematics teacher are given in Appendix –C and D.

The mean scores of community and institution school mathematics teacher’s towards use of teaching manual have compared with the help of t-test. The result of the analysis is presented in the following table.

Table no 2
Comparison of perception of community and institution school mathematics teacher’s towards use of teacher’s manual

| School | sample | mean | S.D | Df | t-value |
|-------------|--------|--------|--------|-----|---------|
| community | 80 | 112.9 | 182.83 | 128 | 0.8231 |
| Institution | 50 | 109.92 | 91.22 | | |

Critical region $t_{3/2,v}=t_{0.025,128}=1.96$

N=sample size

df=degree of freedom (N_1+N_2-2)

From the above table the mean score of the of community and institution school mathematics teachers are 112.9 and 109.92 respectively, where significance difference with the standard deviation 182.83 and 91.22 the computed value of t -value found 0.8231 which lies between the critical region at 0.05 level of significance, Hence the calculated t -value did not fall outside the critical region, that is null hypothesis (H_0) is accepted. So the researcher concluded that there is no significant difference between perception of mathematics teacher towards use of teaching manual in community and institutional school.

In this study the researcher reviewed journal titled as Forroqui, S. (2008) teacher perception of textbook and teachers guide: A study in secondary education Bangladesh with this paper explores English language teacher's perceptions on this textbook and the teacher guide. This study was qualitative in nature. This study was related to this study to identify mathematics teacher's perception towards use of teaching manual. To compare the perception of community and institution school mathematics teacher's towards use of teaching manual. The population of the study consists of all the community and institutional school of mathematics teacher of Kanchanpur district in the academic year 2075.

Chapter V

SUMMARY, FINDING, CONCLUSION AND RECOMMENDATION

This chapter is basically concerned on deriving summary, finding, and conclusion also Recommendation of further study.

Teaching mathematics is challenging and different other subject because of its nature and learning process .so, mathematics teacher need proper tanning time to time, proper use of lesson plan for effective teaching and most important thing is government provide teachers manual of every teacher. In the present study the researcher selected the following objectives.

To fulfill these two objectives of the study, the researcher collected the data by the tool of questionnaire under the Likert give attitude scale in survey design. The researcher use quantitative method. The population of the study consists of all the community and institutional school of mathematics teacher of Kanchanpur district in the academic year 2075. The sample was selected from 80 community teachers and 50 institutional teachers of community and institution school in Appendix I and J respectively. A set 30 questionnaire was developed as the tool of collection data. The question had given five scale of statement like strongly agree, agree, undecided, disagree and strongly disagree of Likert scale. The chi-square test, mean attitude score and percentage which use determine the first objectives to identify mathematics teacher's perception towards use of teaching manual at secondary level in kanchanpur district and t- test, mean score, S.D, were used to determine the signification different between community and institution school mathematics teacher's towards use of teacher's manual. The tool of the study was assumed valid and reliable between because it was already use to the study of Bhatt. M also reliability was based on pilot

test. In the study the tools were only modified by level of secondary school. In this study the researcher were analyzed by chi-square test, t- test mean, percentage

Finally, the researcher founded that to identify mathematics teacher's perception towards use of teaching manual and there is no signification difference between perception of mathematics teacher towards use of teaching manual in community and institutional school.

Findings of the Study

In the study the statistics chi-square test and t-test was used analysis for the objectives to identify mathematics teacher's perception towards use of teaching manual and to compare the perception of community and institution school mathematics respectively. Then the researcher were found

- 1) Calculated chi-square test value each statement had greater than the tabulated (tabulated chi-square value 9.488)of each statement.It shows that the teacher have positive perception towards the use of teaching manual.
- 2) Calculated t- value lies between the critical region $-1.96 \leq t \leq 1.96$, so null hypothesis is accepted (There is no signification difference between perception of mathematics teacher towards use of teaching manual in community and institutional school.)
- 3) The t-value of community and institutional schools was 0.8231
- 4) The average mean attitude score of the statement was 3.748
- 5) Teacher are understood that mathematics problems were useful to them to understood the related topic
- 6) Teaching manual to help the mathematics teacher for develop good teaching techniques, style, idea and working habit.

Another part of the study was collect the suggesting for improve the teaching manual. The suggestions provide the majority of the teachers are also the important finding of the study which is following

-) More than one method should include solution the problem.
-) Teaching manual should not be hurriedly prepared without correction the error and print mistakes.
-) Teaching manual should be centered on techniques rather than solving problem.
-) Difficult and challenges questions are also included in teaching manual.
-) Hints for difficult problems of mathematics textbooks should be given in teaching manual.
-) More than one example, formula and direction should including on the teaching manual.
-) Actually, teaching manual does not identity real problems of mathematics teacher while teaching mathematics in classroom.

Conclusions of the Study

It is conclude that teaching manual is designed in the very simple language. It help teacher and encourages student for actives participation in classroom, so teaching manual is very useful and effectively. It is also real guide for untrained teacher who are starting their profession as teaching. Mainly, the researcher concluded as:

-) There was positive perception towards use of teaching manual at secondary level mathematics teacher in kanchanpur district.
-) There is no signification difference between perception of mathematics teacher towards use of teaching manual in community and institutional school.

-) The teaching manual are supports mathematics teacher to teach mathematics in classroom.

Recommendations for Further Study

School teacher must be aware that there is certain aspect of student learning in mathematics needed to be improved. In particular student should be given more opportunities to work on non –routine and challenging mathematics problem so as to maximize their higher-order thinking skill for this purpose teacher must be use teaching manual while before the teaching. This conclusion of the study cannot be generalized all over the country due to the limitations contained in the study. On the basis of the study the following Recommendations have given made:

-) It would be helpful for the researcher who tries to research on the same issue.
-) Researcher can study by taking other tools expect questionnaire.
-) It should also be study for the teaching manual of other level.
-) Teacher should be encouraged to participate in a range of group and individual learning activities that are participated in the training class and out of the training class room so, that they could engage mathematics learning at home.
-) Mathematics teacher should be encourage to learn more about the variety of teaching manual are use in mathematics teaching and learning.
-) It should be study the teaching manual other subject.
-) Researcher can study to another district on teaching manual.
-) Researcher can study by taking more than two objects as like the same research.

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Appendix A
Questionnaire for Teachers

School's Name:

Community/Institutional school:

Teacher's Name:

Teaching Level:

Please study the statement carefully and tick the best one of the following clue
Strongly Agree (SA), Agree (A), Undecided (U), Disagree (DA) or Strongly Disagree (SDA).

| Areas | S.N | Statement | SA | A | U | DA | SDA |
|------------------------------|-----|--|----|---|---|----|-----|
| Curriculum And content | 1 | The topics in teaching manual were arranged according to contents. | | | | | |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | | | | | |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | | | | | |
| | 4 | It is just a teacher manual, teacher guide and textbook. | | | | | |
| | 5 | The weightage of marks of every topic for examination should be given in it. | | | | | |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | | | | | |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | | | | | |
| Teaching materials | 8 | Teaching manual be better for both institutional and community schools mathematics teacher. | | | | | |
| | 9 | The design and attractiveness of | | | | | |

| | | | | | | | |
|---------------------|----|--|--|--|--|--|--|
| | | mathematics teaching manual of secondary level mathematics is good. | | | | | |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | | | | | |
| | 11 | It becomes a real manual especially for the untrained teachers. | | | | | |
| | 12 | Textbook teaching materials given in teaching manual are not suitable for context of Nepal. | | | | | |
| Teaching strategies | 13 | The figure is appropriate and useful for teacher. | | | | | |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | | | | | |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | | | | | |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | | | | | |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | | | | | |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teaching manual. | | | | | |
| | 19 | Appropriate methods are not given to prepare teaching material. | | | | | |

| | | | | | | | |
|----------------------------------|----|--|--|--|--|--|--|
| Exercise, Formula and example | 20 | The examples given in teachers manual are related to the daily life activities and experiences of student. | | | | | |
| | 21 | The additional exercise made the guide standard. | | | | | |
| | 22 | The formulas and direction given to teach unit or topic are not sufficient. | | | | | |
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | | | | | |
| | 24 | The example and direction given to teach each unit or topics are sufficient. | | | | | |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | | | | | |
| | 26 | It should be easily available in the market. | | | | | |
| | 27 | The teaching manual is costly. | | | | | |
| | 28 | In this guide, there is no error in printing and language. | | | | | |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities giver in it. | | | | | |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | | | | | |

Appendix-B**Responses of secondary school level mathematics teachers**

| Areas | S.N | Statement | SA | A | U | DA | SDA |
|------------------------------|-----|--|----|----|---|----|-----|
| Curriculum And content | 1 | The topics in teaching manual were arranged according to contents. | 23 | 68 | 0 | 34 | 3 |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | 26 | 69 | 0 | 31 | 4 |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 67 | 53 | 1 | 9 | 0 |
| | 4 | It is just a teaching manual, teacher guide and textbook. | 10 | 26 | 5 | 63 | 20 |
| | 5 | The weightage of marks of every topic for examination should be given in it. | 17 | 23 | 9 | 41 | 30 |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | 46 | 60 | 1 | 18 | 5 |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 77 | 40 | 0 | 2 | 5 |
| Teaching materials | 8 | Teaching manual be better for both institutional and community schools mathematics teacher. | 91 | 31 | 0 | 6 | 2 |
| | 9 | The design and attractiveness of mathematics teaching manual of secondary level mathematics is good. | 25 | 68 | 1 | 34 | 3 |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 12 | 22 | 0 | 69 | 37 |
| | 11 | It becomes a real manual especially | 29 | 54 | 0 | 30 | 19 |

| | | | | | | | |
|-------------------------------|----|--|----|----|---|----|----|
| | | for the untrained teachers. | | | | | |
| | 12 | Textbook teaching materials given in teacher manual are not suitable for context of Nepal. | 3 | 12 | 3 | 28 | 84 |
| Teaching strategies | 13 | The figure is appropriate and useful for teacher. | 32 | 68 | 2 | 9 | 19 |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 26 | 64 | 1 | 24 | 15 |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | 10 | 19 | 5 | 64 | 32 |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 39 | 73 | 0 | 16 | 2 |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 29 | 26 | 1 | 36 | 38 |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teacher manual. | 42 | 62 | 0 | 20 | 6 |
| | 19 | Appropriate methods are not given to prepare teaching material. | 7 | 53 | 1 | 64 | 5 |
| Exercise, Formula and example | 20 | The examples given in teachers manual are related to the daily life activities and experiences of student. | 32 | 75 | 4 | 10 | 9 |
| | 21 | The additional exercise made the guide standard. | 12 | 88 | 7 | 13 | 10 |
| | 22 | The formulas and direction given to teach unit or topic are not sufficient. | 49 | 57 | 1 | 20 | 3 |

| | | | | | | | |
|----------------------------------|----|--|----|----|---|----|----|
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | 60 | 42 | 0 | 22 | 6 |
| | 24 | The example and direction given to teach each unit or topics are sufficient. | 70 | 41 | 0 | 12 | 7 |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | 14 | 55 | 1 | 32 | 28 |
| | 26 | It should be easily available in the market. | 18 | 45 | 7 | 35 | 25 |
| | 27 | The teaching manual is costly. | | | | | |
| | 28 | In this guide, there is no error in printing and language. | 27 | 76 | 0 | 23 | 4 |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities given in it. | 29 | 88 | 2 | 9 | 2 |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 42 | 62 | 0 | 20 | 6 |

Appendix-C**Responses of community secondary school level mathematics teachers**

| Areas | S.N | Statement | SA | A | U | DA | SDA |
|------------------------------|-----|--|----|----|---|----|-----|
| Curriculum And content | 1 | The topics in teaching manual were arranged according to contents. | 14 | 50 | 0 | 14 | 2 |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | 16 | 46 | 0 | 18 | 0 |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 44 | 36 | 0 | 0 | 0 |
| | 4 | It is just a teaching manual, teacher guide and textbook. | 6 | 18 | 2 | 46 | 8 |
| | 5 | The weight age of marks of every topic for examination should be given in it. | 10 | 16 | 4 | 28 | 22 |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | 30 | 40 | 0 | 8 | 2 |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 50 | 30 | 0 | 0 | 0 |
| Teaching materials | 8 | Teaching manual be better for both institutional and community schools mathematics teacher. | 58 | 18 | 0 | 4 | 0 |
| | 9 | The design and attractiveness of mathematics teaching manual of secondary level mathematics is good. | 14 | 51 | 0 | 13 | 2 |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials | 8 | 14 | 0 | 40 | 18 |

| | | | | | | | |
|---------------------|-----------------------|--|--|----|----|----|----|
| | | are mentioned on it. | | | | | |
| | 11 | It becomes a real manual especially for the untrained teachers. | 14 | 42 | 0 | 18 | 6 |
| | 12 | Textbook teaching materials given in teaching manual are not suitable for context of Nepal. | 2 | 6 | 0 | 18 | 54 |
| Teaching strategies | 13 | The figure is appropriate and useful for teacher. | 22 | 40 | 0 | 14 | 4 |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 16 | 40 | 0 | 14 | 10 |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | 6 | 12 | 4 | 44 | 14 |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 24 | 50 | 0 | 6 | 0 |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 16 | 16 | 0 | 26 | 22 |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teaching manual. | 26 | 38 | 0 | 12 | 4 |
| | 19 | Appropriate methods are not given to prepare teaching material. | 2 | 38 | 0 | 38 | 2 |
| | Exercise, Formula and | 20 | The examples given in teaching manual are related to the daily life activities and experiences of student. | 20 | 50 | 2 | 4 |
| 21 | | The additional exercise made the guide standard. | 8 | 56 | 4 | 6 | 6 |

| | | | | | | | |
|----------------------------------|----|--|----|----|---|----|----|
| example | 22 | The formulas and direction given to teach unit or topic are not sufficient. | 32 | 34 | 0 | 12 | 2 |
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | 42 | 26 | 0 | 10 | 2 |
| | 24 | The example and direction given to teach each unit or topics are sufficient. | 46 | 27 | 0 | 5 | 2 |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | 14 | 48 | 0 | 16 | 2 |
| | 26 | It should be easily available in the market. | 10 | 22 | 4 | 28 | 16 |
| | 27 | The teaching manual is costly. | 12 | 54 | 0 | 12 | 2 |
| | 28 | In this guide, there is no error in printing and language. | 18 | 58 | 0 | 4 | 0 |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities given in it. | 18 | 48 | 2 | 12 | 0 |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 26 | 38 | 0 | 12 | 4 |

Appendix –D

Responses of institution secondary school level mathematics teachers

| Areas | S.N | Statement | SA | A | U | DA | SDA |
|------------------------------|-----|--|----|----|---|----|-----|
| Curriculum And content | 1 | The topics in teaching manual were arranged according to contents. | 9 | 20 | 0 | 20 | 1 |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | 10 | 23 | 0 | 13 | 4 |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 23 | 17 | 1 | 9 | 0 |
| | 4 | It is just a teaching manual, teacher guide and textbook. | 4 | 8 | 3 | 23 | 12 |
| | 5 | The weightage of marks of every topic for examination should be given in it. | 6 | 7 | 5 | 13 | 18 |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | 16 | 20 | 1 | 10 | 3 |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 27 | 16 | 0 | 2 | 5 |
| Teaching materials | 8 | Teaching manual be better for both institutional and community schools mathematics teacher. | 33 | 13 | 0 | 2 | 2 |
| | 9 | The design and attractiveness of mathematics teacher manual of secondary level mathematics is good. | 11 | 22 | 1 | 15 | 1 |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 4 | 8 | 0 | 19 | 19 |

| | | | | | | | |
|-------------------------------|----|--|----|----|---|----|----|
| | 11 | It becomes a real manual especially for the untrained teachers. | 11 | 22 | 1 | 15 | 1 |
| | 12 | Textbook teaching materials given in teaching manual are not suitable for context of Nepal. | 15 | 12 | 0 | 10 | 13 |
| Teaching strategies | 13 | The figure is appropriate and useful for teacher. | 1 | 6 | 3 | 10 | 30 |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 10 | 24 | 1 | 10 | 5 |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | 4 | 7 | 1 | 20 | 18 |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 15 | 23 | 0 | 10 | 2 |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 13 | 18 | 1 | 12 | 16 |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teaching manual. | 16 | 24 | 0 | 8 | 2 |
| | 19 | Appropriate methods are not given to prepare teaching material. | 5 | 15 | 1 | 26 | 3 |
| Exercise, Formula and example | 20 | The examples given in teachers manual are related to the daily life activities and experiences of student. | 12 | 27 | 1 | 6 | 4 |
| | 21 | The additional exercise made the guide standard. | 4 | 32 | 3 | 7 | 4 |
| | 22 | The formulas and direction given to | 17 | 23 | 1 | 8 | 1 |

| | | | | | | | |
|----------------------------------|----|--|----|----|---|----|----|
| | | teach unit or topic are not sufficient. | | | | | |
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | 18 | 16 | 0 | 12 | 4 |
| | 24 | The example and direction given to teach each unit or topics are sufficient. | 24 | 14 | 0 | 7 | 5 |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | 0 | 7 | 1 | 16 | 26 |
| | 26 | It should be easily available in the market. | 8 | 23 | 3 | 7 | 9 |
| | 27 | The teaching manual is costly. | 15 | 22 | 0 | 11 | 2 |
| | 28 | In this guide, there is no error in printing and language. | 11 | 30 | 2 | 5 | 2 |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities given in it. | 11 | 28 | 1 | 10 | 0 |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 19 | 24 | 0 | 5 | 2 |

Appendix –E**Responses of all the mathematics teachers towards the teacher's manual**

| Areas | S.N. | Statements | Chi-square value | Decision |
|------------------------------|------|--|------------------|----------|
| Curriculum And content | 1. | The topics in teaching manual were arranged according to contents. | 24.13 | S |
| | 2. | The teaching manual helps to fulfill the objects of mathematics curriculum. | 123.192 | S |
| | 3. | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 153.84 | S |
| | 4. | It is just a teaching manual, teacher guide and textbook. | 79.65 | S |
| | 5. | The weightage of marks of every topic for examination should be given in it. | 23.84 | S |
| | 6. | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | 81 | S |
| | 7. | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 180.53 | S |

| | | | | |
|--------------------|---------------------|--|---|--------|
| Teaching materials | 8. | Teaching manual be better for both institutional and community schools mathematics teacher. | 201 | S |
| | 9. | The design and attractiveness of mathematics teacher manual of secondary level mathematics is good. | 129.53 | S |
| | 10. | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 83.92 | S |
| | 11. | It becomes a real manual especially for the untrained teachers. | 59 | S |
| | 12. | Textbook teaching materials given in teaching manual are not suitable for context of Nepal. | 177.76 | S |
| | Teaching strategies | 13. | The figure is appropriate and useful for teacher. | 104.38 |
| 14. | | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 76.5 | S |
| 15. | | It is not always accompanied all themathematics teacher | 85.61 | S |

| | | | | |
|--|-----|--|---------|---|
| | | because of its significance guidance. | | |
| | 16. | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 117.46 | S |
| | 17. | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 33.76 | S |
| | 18. | The tactful solutions for the difficult problem of the text book have not been given in teaching manual. | 102.461 | S |
| | 19. | Appropriate methods are not given to prepare teaching material. | 138.46 | S |
| Exercise, Formula and example | 20. | The examples given in teaching manual are related to the daily life activities and experiences of student. | 133.3 | S |
| | 21. | The additional exercise made the guide standard. | 185.61 | S |
| | 22. | The formulas and direction given to teach unit or topic are not sufficient. | 103.07 | S |
| | 23. | Ample suggestion and | 96.3 | S |

| | | | | |
|----------------------------------|-----|--|--------|---|
| | | hints are fixed, that help the teacher to finish the course in time. | | |
| | 24. | The example and direction given to teach each unit or topics are sufficient. | 130.53 | S |
| Language, Error and availability | 25. | The language of the teaching manual is not simple and difficult to understand. | 58.38 | S |
| | 26. | It should be easily available in the market. | 33.38 | S |
| | 27. | The teaching manual is costly. | 115.15 | S |
| | 28. | In this guide, there is no error in printing and language. | 203.19 | S |
| | 29. | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities given in it. | 117.46 | S |
| | 30. | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 89.61 | S |

S=significance

Appendix F

Negative question response of all the mathematics teachers towards the teacher's manual

| S.N. | Negative Statements | χ^2 - value | Decision |
|------|--|------------------|----------|
| 1. | The language of the teaching manual is not simple and difficult to understand. | 58.38 | S |
| 2. | It is just a teaching manual, teacher guide and textbook. | 79.65 | S |
| 3. | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 83.92 | S |
| 4. | It is not always accompanied all the mathematics teacher because of its significance guidance. | 85.61 | S |
| 5. | The weightage of marks of every topic for examination should be given in it. | 23.84 | S |
| 6. | Textbook teaching materials given in teaching manual are not suitable for context of Nepal. | 177.76 | S |
| 7. | Appropriate methods are not given to prepare teaching material. | 138.46 | S |

Appendix –G**Percentage Responses of all the mathematics teachers on each statement**

| S.N | A | D | U | A% | D% | U% |
|-----|-----|-----|---|-------|-------|------|
| 1 | 98 | 32 | 0 | 75.38 | 24.61 | 0 |
| 2 | 95 | 35 | 0 | 73.07 | 26.92 | 0 |
| 3 | 120 | 9 | 1 | 92.3 | 6.93 | 0.76 |
| 4 | 36 | 83 | 5 | 27.69 | 68.46 | 3.84 |
| 5 | 40 | 71 | 9 | 30.76 | 54.61 | 6.92 |
| 6 | 106 | 23 | 1 | 81.53 | 17.7 | 0.76 |
| 7 | 123 | 7 | 0 | 94.61 | 5.38 | 0 |
| 8 | 122 | 8 | 0 | 93.84 | 6.15 | 0 |
| 9 | 98 | 31 | 1 | 75.38 | 23.84 | 0.76 |
| 10 | 34 | 105 | 0 | 26.15 | 73.84 | 0 |
| 11 | 83 | 49 | 0 | 63.84 | 36.15 | 0 |
| 12 | 15 | 112 | 3 | 11.53 | 86.15 | 2.3 |
| 13 | 100 | 28 | 2 | 76.92 | 21.53 | 1.53 |
| 14 | 90 | 39 | 1 | 69.23 | 30 | 0.76 |
| 15 | 29 | 96 | 5 | 22.3 | 73.84 | 3.84 |
| 16 | 112 | 18 | 0 | 86.15 | 13.84 | 0 |
| 17 | 54 | 74 | 1 | 41.53 | 57.7 | 0.76 |
| 18 | 104 | 26 | 0 | 80 | 20 | 0 |
| 19 | 60 | 69 | 1 | 46.15 | 53.17 | 0.76 |
| 20 | 107 | 19 | 4 | 82.3 | 14.61 | 3.07 |
| 21 | 100 | 23 | 7 | 76.92 | 17.69 | 5.38 |
| 22 | 106 | 23 | 1 | 81.53 | 17.69 | 0.76 |
| 23 | 102 | 28 | 0 | 78.46 | 21.56 | 0 |
| 24 | 111 | 19 | 0 | 85.38 | 14.61 | 0 |
| 25 | 69 | 60 | 1 | 53.07 | 46.25 | 0.67 |
| 26 | 63 | 60 | 7 | 48.46 | 46.15 | 5.38 |
| 27 | 103 | 27 | 0 | 79.23 | 20.76 | 0 |
| 28 | 127 | 11 | 2 | 90 | 8.47 | 1.53 |
| 29 | 105 | 22 | 3 | 73.84 | 16.92 | 2.3 |
| 30 | 100 | 30 | 0 | 76.92 | 23.07 | 0 |

SA = Strongly Agree + Agree, D = Strongly Disagree + Disagree,

Average agree=63.97

Average disagree=34.71

Appendix –H**Total score and mean score obtained by perception score**

| Areas | S.N. | Statement | Total Score | Mean Score |
|------------------------|------|--|-------------|------------|
| Curriculum And content | 1 | The topics in teaching manual were arranged according to contents. | 479 | 3.68 |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | 472 | 3.63 |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 568 | 4.36 |
| | 4 | It is just a teaching manual, teacher guide and textbook. | 429 | 3.3 |
| | 5 | The weightage of marks of every topic for examination should be given in it. | 404 | 3.11 |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher manual. | 509 | 3.91 |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 578 | 4.44 |
| Teaching materials | 8 | Teaching manual be better for both institutional and community schools mathematics teacher. | 593 | 4.56 |
| | 9 | The design and attractiveness of mathematics teaching manual of secondary level mathematics is good. | 479 | 3.68 |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 517 | 3.97 |
| | 11 | It becomes a real manual especially for the untrained teachers. | 459 | 3.53 |
| | 12 | Textbook teaching materials given in | 564 | 4.33 |

| | | | | |
|-------------------------------|----|--|-----|------|
| | | teaching manual are not suitable for context of Nepal. | | |
| Teaching strategies | 13 | The figure is appropriate and useful for teacher. | 475 | 3.65 |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 452 | 3.47 |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | 479 | 3.68 |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 521 | 4.07 |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 362 | 2.78 |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teaching manual. | 504 | 3.87 |
| | 19 | Appropriate methods are not given to prepare teaching material. | 397 | 3.1 |
| Exercise, Formula and example | 20 | The examples given in teaching manual are related to the daily life activities and experiences of student. | 501 | 3.85 |
| | 21 | The additional exercise made the guide standard. | 469 | 3.66 |
| | 22 | The formulas and direction given to teach unit or topic are not sufficient. | 519 | 3.99 |
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | 518 | 4.04 |
| | 24 | The example and direction given to teach | 545 | 4.19 |

| | | | | |
|----------------------------------|----|--|-----|------|
| | | each unit or topics are sufficient. | | |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | 355 | 2.73 |
| | 26 | It should be easily available in the market. | 386 | 2.96 |
| | 27 | The teaching manual is costly. | | |
| | 28 | In this guide, there is no error in printing and language. | 523 | 4.02 |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities given in it. | 499 | 3.83 |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 493 | 3.79 |

$$\text{Average Mean score} = \frac{111.9}{30} \times 3.73$$

Appendix –I

Responses of community secondary school level mathematics teacher

| Areas | S.N. | Statement | Total Score | Mean Score |
|------------------------|------|--|-------------|------------|
| Curriculum And content | 1 | The topics in teaching manual were arranged according to contents. | 300 | 3.75 |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | 300 | 3.75 |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 364 | 4.55 |
| | 4 | It is just a teaching manual, teacher guide and textbook. | 272 | 3.4 |
| | 5 | The weightage of marks of every topic for examination should be given in it. | 276 | 3.45 |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | 328 | 4.1 |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 370 | 4.62 |
| Teaching materials | 8 | Teaching manual be better for both institutional and community schools mathematics teacher. | 370 | 4.62 |
| | 9 | The design and attractiveness of mathematics teaching manual of secondary level mathematics is good. | 302 | 3.8 |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 286 | 3.57 |
| | 11 | It becomes a real manual especially for the untrained teachers. | 280 | 3.5 |

| | | | | |
|-------------------------------|----|--|-----|------|
| | 12 | Textbook teaching materials given in teaching manual are not suitable for context of Nepal. | 356 | 4.45 |
| Teaching strategies | 13 | The figure is appropriate and useful for teacher. | 302 | 3.77 |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 278 | 3.47 |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | 228 | 3.6 |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 332 | 4.15 |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 218 | 2.72 |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teacher manual. | 310 | 3.87 |
| | 19 | Appropriate methods are not given to prepare teaching material. | 240 | 3 |
| Exercise, Formula and example | 20 | The examples given in teaching manual are related to the daily life activities and experiences of student. | 318 | 3.97 |
| | 21 | The additional exercise made the guide standard. | 294 | 3.67 |
| | 22 | The formulas and direction given to teach unit or topic are not sufficient. | 322 | 4.02 |
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | 336 | 4.2 |

| | | | | |
|----------------------------------|----|--|-----|-------|
| | 24 | The example and direction given to teach each unit or topics are sufficient. | 350 | 4.375 |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | 184 | 2.3 |
| | 26 | It should be easily available in the market. | 222 | 2.77 |
| | 27 | The teaching manual is costly. | 302 | 3.77 |
| | 28 | In this guide, there is no error in printing and language. | 330 | 4.12 |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities given in it. | 312 | 3.9 |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 290 | 3.62 |

Appendix-J**Responses of institution secondary school level mathematics teacher**

| Areas | S.N. | Statement | Total Score | Mean Score |
|------------------------|------|--|-------------|------------|
| Curriculum And content | 1 | The topics in teaching manual were arranged according to contents. | 166 | 3.32 |
| | 2 | The teaching manual helps to fulfill the objects of mathematics curriculum. | 172 | 2.15 |
| | 3 | Allocated time and weight age of every lesson are fixed, that helps the teacher to complete the course on time. | 204 | 4.08 |
| | 4 | It is just a teaching manual, teacher guide and textbook. | 183 | 3.66 |
| | 5 | The weightage of marks of every topic for examination should be given in it. | 178 | 3.56 |
| | 6 | The real problems faced by mathematics teacher while teaching mathematics are not identified by teaching manual. | 144 | 2.28 |
| | 7 | It has become the real guide for the teacher who is teaching compulsory mathematics at secondary level. | 212 | 4.24 |
| Teaching materials | 8 | Teacher manual be better for both institutional and community schools mathematics teacher. | 223 | 4.46 |
| | 9 | The design and attractiveness of mathematics teaching manual of secondary level mathematics is good. | 177 | 3.54 |
| | 10 | It is not necessary for the teacher make daily lesson plan because the objectives and instruction materials are mentioned on it. | 191 | 3.82 |
| | 11 | It becomes a real manual especially for the untrained teachers. | 151 | 3.02 |

| | | | | |
|-------------------------------|----|--|-----|------|
| | 12 | Textbook teaching materials given in teaching manual are not suitable for context of Nepal. | 218 | 4.36 |
| Teaching strategies | 13 | The figure is appropriate and useful for teacher. | 158 | 3.16 |
| | 14 | It would be more helpful for the teachers to make students more practicable if the model question sets were included in it. | 174 | 3.48 |
| | 15 | It is not always accompanied all the mathematics teacher because of its significance guidance. | 191 | 3.82 |
| | 16 | The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex) | 189 | 3.78 |
| | 17 | The manual be more standard if new modern skill and techniques for effective teaching learning and included rather than solving the problem. | 144 | 2.88 |
| | 18 | The tactful solutions for the difficult problem of the text book have not been given in teaching manual. | 194 | 3.88 |
| | 19 | Appropriate methods are not given to prepare teaching material. | 143 | 2.86 |
| Exercise, Formula and example | 20 | The examples given in teachers manual are related to the daily life activities and experiences of student. | 187 | 3.94 |
| | 21 | The additional exercise made the guide standard. | 175 | 3.5 |
| | 22 | The formulas and direction given to teach unit or topic are not sufficient. | 197 | 3.94 |
| | 23 | Ample suggestion and hints are fixed, that help the teacher to finish the course in time. | 182 | 3.64 |

| | | | | |
|----------------------------------|----|--|-----|------|
| | 24 | The example and direction given to teach each unit or topics are sufficient. | 195 | 3.9 |
| Language, Error and availability | 25 | The language of the teaching manual is not simple and difficult to understand. | 211 | 4.22 |
| | 26 | It should be easily available in the market. | 164 | 3.28 |
| | 27 | The teaching manual is costly. | 187 | 3.74 |
| | 28 | In this guide, there is no error in printing and language. | 193 | 3.86 |
| | 29 | The ambiguities for the teacher about what to do in classroom have been removed by the teaching learning activities given in it. | 190 | 3.8 |
| | 30 | Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand. | 203 | 4.06 |

Appendix K**Comparison of perception of community and institution school mathematics teacher's towards use of teaching manual**

| school | sample | mean | S.D | d.f | t-value |
|-------------|--------|--------|--------|-----|---------|
| community | 80 | 112.9 | 182.83 | 128 | 0.8231 |
| institution | 50 | 109.92 | 91.22 | | |

Critical region $t_{\alpha/2, v} > X t_{0.025, 128} > 0.8231$

N=sample size

Df=degree of freedom (N_1+N_2-2)

Appendix L

Let X_i and Y_i be the total values of response of each questionnaire, where $i = 1, 2, 3, \dots, 30$

For, mean and standard deviation

then

$$\bar{X} = \frac{fx_1 + fx_2 + \dots + fx_{30}}{N} = \frac{9032}{80} = 112.9$$

$$\bar{Y} = \frac{fy_1 + fy_2 + \dots + fy_{30}}{N} = \frac{5496}{50} = 109.92$$

Appendix M

For S_1 and S_2

$$\begin{aligned}
 S_1 &= \sqrt{\frac{x^2}{N} \sum \frac{x^2}{N}} \\
 &= \sqrt{\frac{2776384}{80} \sum \frac{9032}{80}} \\
 &= \sqrt{34704.8 \sum 1276.41} \\
 &= 182.83
 \end{aligned}$$

$$\begin{aligned}
 S_2 &= \sqrt{\frac{y^2}{N} \sum \frac{y^2}{N}} \\
 &= \sqrt{\frac{1020232}{50} \sum \frac{5496}{50}} \\
 &= \sqrt{20404.64 \sum 12082.40} \\
 &= 91.22
 \end{aligned}$$

For t-test

Now

$$\begin{aligned}
 SP &= \frac{f_{n_1} \sum S_1^2 + f_{n_2} \sum S_2^2}{n_1 + n_2} \\
 &= \frac{f_{80} \sum 182.83^2 + f_{50} \sum 91.22^2}{128} \\
 &= 23816.025 \\
 t &= \frac{\bar{x}_1 - \bar{x}_2}{sp \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \times \frac{9032 - 5496}{sp \cdot \sqrt{\frac{1}{80} + \frac{1}{50}}} \\
 &= \frac{3536}{sp \cdot 0.180} \times \frac{3536}{4293.4949} \times 0.8231
 \end{aligned}$$

Appendix –N**List of institutional schools**

| S/N | Schools name | Number of teachers |
|-----|---|--------------------|
| 1 | Little Buddha Academy , mahendranager | 3 |
| 2 | Kanchanvidyamindir higher secondary school, , mahendranager | 3 |
| 3 | Radiant higher secondary school, , mahendranager | 4 |
| 4 | International public school, , mahendranager | 3 |
| 5 | Sunrise boarding school, , mahendranager | 2 |
| 6 | Global Academy , mahendranager | 2 |
| 7 | Morning Glory secondary school, , mahendranager | 2 |
| 8 | Janjyoti multiple campus Bhasi | 3 |
| 9 | Chandra surya Higher Secondary school,sukhalaphata | 1 |
| 10 | Westpoint Higher Secondary school,sukhalaphata | 2 |
| 11 | Greenland academy school Golraiya | 2 |
| 12 | Baljagritee secondary school, mahendranager | 2 |
| 13 | Baljagritee secondary school,sisaya | 3 |
| 15 | Khaped boarding school,sukhalaphata | 2 |
| 16 | Adarshvidyaniketan higher secondary school, mahendranager | 2 |
| 17 | Araniko English secondary school, mahendranager | 2 |
| 18 | Gyanvatika secondary school, mahendranager | 3 |
| 19 | Siddhanath modern Academy , mahendranager | 2 |
| 20 | Western higher secondary school, , mahendranager | 2 |
| 21 | Mileston higher secondary school , mahendranager | 2 |
| 22 | Rastriyabalbidhalaya , mahendranager | 3 |

Appendix –O**List of community schools**

| S/N | Schools name | Number of teacher |
|-----|--|-------------------|
| 1 | Krishna Higher Secondary school,sukhalaphata | 2 |
| 2 | Dharma janta Higher Secondary school,sukhalaphata | 3 |
| 3 | Baijanath Higher Secondary school,sukhalaphata | 2 |
| 4 | Baijanath Higher Secondary school, maherdranager | 3 |
| 5 | Janakikanaya Higher Secondary school, maherdranager | 3 |
| 6 | Sarshwati secondary school, kaloupur | 2 |
| 7 | Rastrya Higher Secondary school,sukhalaphata | 3 |
| 8 | Bhirkuti Higher Secondary school,Bhimdattnager | 4 |
| 9 | Santiniketan Higher Secondary school,Bhimdattnager | 4 |
| 10 | Niglaasaini secondary school ,ultakham | 2 |
| 11 | Chatahari Rattan secondary school, daijee | 3 |
| 12 | Shanti secondary school,Belauri | 2 |
| 13 | Udaydev secondary school,sundarpur | 3 |
| 14 | Kalika Secondary school,sukhalaphata | 2 |
| 15 | Laxmi secondary school ,ultakham | 2 |
| 16 | Mahakali secondary school,Haldukhal | 3 |
| 18 | Ghatal higher secondary school,sudha | 4 |
| 19 | Sarswati higher secondary school,ultakham | 3 |
| 20 | Baijnath engineering collage ,mahendranager | 4 |
| 21 | Ashigram secondary school ,sukhalaphata | 2 |
| 22 | Tribhuvan higher secondary,tilaachaud | 4 |
| 23 | Sivsankar Secondary school,sukhalaphata | 2 |
| 24 | Krishna Higher Secondary school,Bank | 2 |
| 25 | Ratna secondary school,daijee | 4 |
| 26 | Bina secondary school,bichuwa | 3 |
| 27 | Baijanath secondary school,nayatilakpur | 3 |
| 28 | Kalika secondary school,krishanpur bank | 1 |
| 29 | Krishna Higher Secondary school,Gulariya | 2 |
| 30 | Mahendranaher Higher Secondary school, maherdranager | 2 |