

TEACHERS' ATTITUDE TOWARDS THE USE OF TEACHERS' GUIDE

A

THESIS

BY

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LETTER OF CERTIFICATE

This is to certify that Mr. Mahadev Bhatt, a student of academic year 2070/2071 B.S. with thesis no. 1260, campus Roll no.456, Exam roll No.280445 and T.U. Registration No: 9-2-329-639-2009 has completed this thesis under my supervision during the period prescribed by the rules and regulation of Tribhuvan University, Kirtipur Kathmandu, Nepal. This thesis entitled "**Teachers' Attitude Towards the use of Teachers' Guide**" embodies the result of this investigation conducted during the period of March 2016 to March 2017 under the department of mathematics education central department of education, University campus, Kirtipur Kathmandu. I hereby recommend and forward that this thesis be submitted for the evaluation to award the Degree of Master of Education.

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LETTER OF APPROVAL

A THESIS

BY

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Entitled

"Teachers' Attitude Towards the use of Teachers' Guide" has been approved in partial fulfillment of the requirements for the degree of master's education.

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RECOMMENDATION FOR ACCEPTANCE

This is to certify that Mr. Mahadev Bhatt completed his M.Ed. thesis entitled "**Teachers' Attitude Towards the use of Teachers' Guide**" under my supervision during the period prescribed the rules and regulation of Tribhuvan University, Kirtipur, Kathmandu, Nepal. I recommended and forward his thesis to the Department of Mathematics Education to evaluate in final viva-voce.

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DEDICATION

This holy work is dedicated to my father Mr. Shankar Bhatt and Mother Mrs. Parwati Bhatt , who even in a very difficult situation gave me a great span of their life for what I am now.

DECLARATION

This thesis contains no materials, which has been accepted for the award of other degree in any institutions. To the best of acknowledgement and belief thesis the contains no materials previously published any others except due acknowledgement has been make.

.....

Mahadev Bhatt

Date:.....

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.....

(Mahadev Bhatt)

ABSTRACT

This study entitled "**Teachers' Attitude Towards the use of Teachers' Guide**" aimed to find out the attitude of lower secondary and secondary level teachers of community and institutional school and to compare the attitude between community and institutional schools mathematics teachers towards the use of teachers' guide. The sample of the study consisted from three hundred eighty nine community and institutional schools of Lalitpur district. All together 100 teachers were considered as the sample (40 community and 60 institutional school teachers) by purposive sampling strategy.

The study conducted by using survey research design under the quantitative method. For this, a set of questionnaire was developed as the tool. The attitude of teachers' measured in the five categories rating scale of Likert. The collected data was tabulated and analyzed by using statistics χ^2 -test and t-test to fulfill the objective first and second respectively. The finding of average mean and t-value of the statement was 3.46 and -0.009. The analysis was based on the responses of the mathematics teachers.

The study concluded that there is a positive attitude using teacher' guide and no significance difference between the attitudes of mathematics teachers' at lower secondary and secondary level community and institutional schools of Lalitpur district.

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ABBREVIATIONS

ARNEC: All Round National Education Commission

BPEP: Basic and Primary Education Project

CDC: Curriculum Development Centre

NNEPC: Nepal National Education Planning Commission

NEC: National Education Commission

NESP: National Education System Plan

SDLM: Self Directed Learning Modal

Chapter I

INTRODUCCION

Background of the Study

Mathematics education is a branch of knowledge, which is well organized in different topics. Mathematics education was developed from the origination of human being as counting, numbering, coding, denoting etc. when needs, means and sources of society and people living in the society increased than the same way mathematics and mathematics education learning process developed to pass on the different civilization of human beings such as Greek, Babylonian, Egyptian etc. In that process new techniques and methods were appeared to calculate/solve the different difficulties to mathematics education. When formal education system was emerged in mid-era to give education to all people, at that time some new teaching methods and procedures appeared to flow the knowledge of mathematics education upon the various techniques.

In the middle period, mathematics was used for the development of 'astronomy' as well as art. But, the lacks of mathematics curriculum, method and evaluation procedure were the major problems of that time. After the establishment democracy in (1951 A.D.), formal education system was appeared in front of all the Nepalese people but the answers of what, how, where etc were no available for a systematic education plan. After that, different education plans appeared to grow the quality of education in Nepal. Nepal National Education Planning Commission (NNEPC) in 1954 A.D, All Round National Education Commission (ARNEC) in 1961 A.D. and National Education system Plan (NESP, 1971 A.D.) etc were appeared in front of the education system of Nepal. Among them NESP (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 teachers' guide in teaching.

Teachers' guide is a book, which suggests different methods and techniques for a teacher while teaching in classroom. It helps the teacher to manage classroom, identify new techniques in learning process, select teaching content sequentially, method suitably, materials and learning process appropriately. That is, it helps a teacher to select teaching content sequentially, methods suitably, materials and learning activities according to students anterior. It also helps to evaluate the students achievement, activities and gives feedback else.

The education system, NESP, was implemented in 1971 A.D., which brought the concept of developing and using teachers' guide along with the changing concept. NESP (1971) has clearly stated that teachers' guide has to be compulsorily preferred for all subjects in school level (Sharma and Sharma, 2003: p. 266). At present responsibility for the publication and distribution of teachers' guide of school level has been given to Janak Shikhsya Samagri Kendra after developing one piece by curriculum development center Shanothimi Bhaktapur.

Attitude is synonymous to belief, perception, opinion, emotion and understanding. Attitude to something is the way that you think and feel about it. So, attitude is a conception of a man towards a thing. But the Study was focused only to identify and comparison of mathematics teachers' attitude towards the use of teachers' guide. Learning plays a significant role in student life. Sequence of many years result of SLC examination shows that students are only going to school but they have not any achievement, in that

case principle of mathematics education indicates that students are not only poor and laborious. Teachers' and their learning style, method as well as teachers' behavior in totality may be poor and unnecessary. So, teachers' guide may be daily use teaching material for a teacher to conduct the above mentioned process in classroom effectively.

Statements of the Problem

Problem defined as an issue that leads to the need for the study. It is necessary for a researcher to research or investigate. So, the researcher tried to mention listed problem related to this study. The problems of the study is mainly concerned with the teachers' attitude towards the use of teachers' guide and comparison on attitude of community and institutional schools of mathematics teacher at lower secondary and secondary level. So, the study has elicit/explore answer along the following research questions:

- What is the attitude of community schools mathematics teachers' towards the use of teachers' guide ?
- What is the attitude of institutional schools mathematics teachers' towards the use of teachers' guide ?
- Do the community schools mathematics teachers' attitude differ from the institutional schools mathematics teachers' to use of teachers' guide ?

Objectives of the Study

The main objectives of the study were as follows:

- To find out the attitude of community and institutional schools mathematics teachers' towards the use of teachers' guide.
- To compare the attitude of community and institutional schools mathematics teachers' towards the use of teachers' guide.

Research Hypothesis

The research hypothesis formulated for the study as follows:

There is positive attitude of community and institutional schools mathematics teachers' towards the use of teachers' guide.

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 attitudes of mathematics teachers' towards the use of teachers' guide in community and institutional schools.

Alternative Hypothesis

$H_1: \mu_1 \neq \mu_2$, there is significance difference between attitude of mathematics teachers' towards the use of teachers' guide in community and institutional schools.

Where, μ_1 = parametric mean attitude score of community school

μ_2 = parametric mean attitude score of institutional school

Significance of the Study

Mathematics is an essential component of school and higher-level education. It takes a complex learning process because of abstract content nature. But in present time many research works are completed to identify difficulties and related solution of mathematics learning. This study helps to investigate the teachers' attitude towards teachers' guide of mathematics teachers' at lower secondary and secondary level. This

study provides the information about teachers' guide while using in mathematics classroom for mathematics teacher. This study also opens the door for further researcher in the field of improving the curriculum of both levels school mathematics. And helps to the education planners, educational administrators and other concerned person for the further educational strategies. Therefore, the study was the relevant and contextual at present.

Most of the educated people wish their children to study mathematics. However, the achievement cannot be desirable. So, different questions arise in administrative area. Like, is the mathematics complex than other subject? Are their teachers' learning strategies effective? But the education specialist concludes that teachers' teaching style may be vital case and teachers' guide may be a helpful material for teachers to fulfill the targeted achievements. Teachers' guide is vital for teaching to any subject effectively. If the mathematics teachers' are not competency then mathematics education cannot context-relevant and practical. Also education policy maker thought that teachers' guide helps teacher to be up to date. So researcher's intention is to investigate the teachers' attitude towards the use of teachers' guide to upgrade the quality of their teaching. Mainly, the significance of this study was as follows:

- It would help to identify shortcoming of teachers' guide at lower secondary and secondary school.
- It would help to improve teaching learning strategies for the teachers.
- It would help to provide valuable information to the text-book writer, evaluator and planner to bring improvement in teachers' guide.

- It would help further researcher to research another subject matter related to this topic.

Delimitation of the Study

The present study was delimited to find out the attitude of lower secondary and secondary level mathematics teachers' towards use of teachers' guide. To accomplish the objectives of the study, the researcher was selected mathematics teachers' of Lalitpur district. Hundred teachers' were selected as the sample by using purposive sampling strategy.

Definition of Operational Terms

The specific words in the study were defined as follows:

Attitude: An attitude is an expressing of favor or disfavor towards a person, place, thing or event. Mathematics teachers' attitude toward teachers' guide is an understanding thinking, realizing as well as giving positive or negative value on it.

Community School: Those schools which are given approval by the government with the financial supports.

Institutional School: Those schools which are given approval by the government without the financial supports.

Teachers' Guide: A reference material that which gives guidelines to the teacher for effective classroom teaching of school level.

Secondary School: Those schools which are running through the classes 9 and 10.

Lower Secondary School: Those schools of Lalitpur district which are running through the classes 6 to 8.

Use: Take instructional manual, teachers' guide and instructional materials on practice to improve lower secondary and secondary level mathematics teachers' teaching profession.

Teachers: Those persons who are teaching mathematics at lower secondary and secondary levels of community and institutional schools.

Chapter II

REVIEW OF RELATED LITERATURE

The main purpose of the review of related literature is to find out what work had been done and what work has not been done in the area of the study. "Literature review is a continuous process" kumar (2005). It begins before selecting a problem and runs up to when research report not to be completed.

Literature review would have done to get a new and non-repeated research. As well as to clarify research problem, improve research method, to identify suitable data collection procedure, to use appropriate data analysis and data interpretation statistics, make broad area in the subject knowledge and get other valuable hints and directions about the delimited study. During the past two or three decades many research had been completed in learning method, process, materials and other researchable area of mathematics. But, few empirical researches have conducted in this area. However, no research has found all together in the lower secondary and secondary level mathematics teachers' attitude toward the use of teachers' guide as far as my study. The related literature of this study is mentioned below as:

Empirical Literature

Empirical literature is that research which published in books, pre-reviewed journals as well as other sources of study. Empirical literature helps the researchers to make their research work unique, valid and reliable. In the same way, the research topic "teachers' attitude towards the use of teachers guide" has different related empirical literatures. To make this research valid and reliable the following published and unpublished study were reviewed.

Budha (2016), conducted a study entitled "Teachers' attitude towards using teachers' guide at primary level." The main objectives of the study were: to find and compare the attitude of community school and institutional school teachers' about teachers guide. The researcher has used survey type methodology with simple random sampling under the community and institutional school containing 15 teachers for each. Questionnaire is used for data collection and χ^2 -test and t-test for data analysis. He found that there is a positive attitude towards teachers' guide of primary level mathematics teachers. Community school teachers' attitude towards teachers' guide is better than institutional school teacher's to run the classroom effectively. The relation with my study has common as tools and data analysis procedures. But, area of study, population, sample, sampling method, teachers' and teaching level were different.

Bhattarai (2002), in this study entitled "A study of teachers' opinion on secondary school mathematics curriculum" Concluded that there is a positive opinion of secondary school mathematics teachers towards secondary level mathematics curriculum. The researcher found that the community school teachers' attitude is better than the institutional school teacher on mathematics curriculum. Moreover, the rural community school teachers' have more positive attitude then the urban community school. The sample of the study was taken thirty one teachers from thirty secondary school of Tanahu district. The common relations with my study were the same level mathematics teacher and research design. But population of study, sample and research area were different.

Parajuli (2001), in this study entitled "A study on attitude of students, teachers and parents towards the new compulsory mathematics in secondary schools" with the aims to adopt mathematics as a compulsory subject in secondary level and to compare the

attitude of the students towards new compulsory mathematics with those of rest group of people. Students with their parents and compulsory mathematics teachers were the sample of the study. Questionnaire including twenty-four items were developed and data were collected. The data were analyzed by using chi-square and t-test. Correlation was applied between parents' attitude and teachers' attitudes. He concluded that they had positive attitude towards the inclusion of trigonometry; like as various new topics in it.

Chaisir (2012), has research on topic "Teachers perception of quality mathematics teaching." The main objective of this study was to find out the teachers perception of quality mathematics learning. This study was based on the descriptive survey design. Researcher studied curriculum pedagogy, assessment, and teachers' attributes and students attributes as normative dimension of quality of mathematics. Learning and explored teachers' perceptions of possible indicators were used for quality mathematics learning. The interpretative inquiry was done purely a side of teachers' perspective. To gather information five teachers including administrator as well as trainers were taken as information teaching experiences interview taken with information's and reflective journals were consider as the source of data. The recorded interviews were transcribed coded and analyzed using triangulation. Finding of the research showed that basically there were some dimensions of quality mathematics learning. The researcher shows that educational process was one of the indicators, which includes whole process of learning, and pillars of learning are teachers, students and school environment.

Subedi (2011), studied on "teachers attitude towards lower secondary level mathematics curriculum" with the objective that to find out the 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 rural schools and 14 urban schools. The collection of the data for this study was developed with the help of a set of opinionative about mathematics curriculum for lower secondary level mathematics teachers. The opinions were consisting of thirty statements. The collection of data for the study had done with the help of questionnaire. χ^2 -test and t-test were applied to analysis the data. The conclusion of the study were as positive attitude towards lower secondary school mathematics curriculum and no significance difference between attitudes of rural and urban public school teachers towards lower secondary school mathematics curriculum. The mentioned study was different to mine study as population, sampling, procedure and research area only.

Pathak (1999), on his study entitled "A study of attitude of secondary level students and teachers towards geometry" In this research the researcher had taken 15 teachers and 224 students from the Tanahu district to fulfill the objectives of above topic. He found that teachers heavily dependent on the lecture and problem solving method. Also, the students studying in secondary level had a positive attitude towards geometry and the secondary level boys had better attitude then those of girl's attitude towards geometry. In this study there was same intention to find the attitude towards geometry and teachers guide of secondary level mathematics teachers. But, population, sample and research area were different.

Adhikari (2001), study on "A study of attitude of lower secondary level students and teachers towards Arithmetic". In his research 15 teacher and 100 students were taken from secondary school as a sample. χ^2 -test and t-test were used to analysis the obtained data. The researcher found no gender different in attitude towards arithmetic and also found that mathematics teachers has positive attitude towards arithmetic. Same research design, analysis and interpretation procedure were used in the mentioned and mine research by using secondary level mathematics teacher in sample. But population of study, sample and objectives were seen different.

Karki (2011), in the study entitled "Attitude faced by teacher in teaching mathematics at primary level in Lamjung district" was described by survey method consisting opinion, classroom observation and interview schedule for data collection. The main objective of this study is to analyze problem faced by secondary level mathematics teachers in teaching mathematics with respect to classroom teaching, physical facilities, curriculum differences in student background and problem faced by rural and urban schools teacher. He concluded that teachers were facing many problems related to the curriculum, text-book, and background of the study and classroom management. The research study related as same intention to obtain attitude of mathematics teachers. But difference was that to find attitude faced by teacher in teaching of primary level and attitude towards the use of teachers' guide at secondary level. Also this study was same as design and tool but different in research area, population and sample.

Theoretical Literature

Theoretical literature plays a vital role in the research of any research area of researcher. It makes research valid and reliable to all audience. This section of the study

incorporates the use of teachers' guide, the practices of teachers' guide, its advantages and perceptions of mathematics teachers of both intended school: government added and institutional.

Use of Teachers' Guide

The teachers' guide is a kind of 'study guide' common mainly in academic study and primarily a teaching tool written by an 'expert' who presents of the content and knowledge to the person who is 'learning' or in 'training' (Lea and Sara, 2012). It means to say that teachers' guide is a good friend of teachers' to conduct classroom activities effectively, smoothly and practically. In this reference, Shulman (1986 a cited in Leo, 2012) states, "teachers' guide is a technological-pedagogical orientation and are meant to help the teacher organize one or a series of classroom lessons." Similarly, Shkedi (1995, p. 155) argues A teachers' guide is the main if not the only way curriculum writers can establish a direct link to teachers' and clarify their intention to them." In additional Shrestha (2016) writes "teachers guide is one of the most commonly use and found teaching references or supplementary materials."

A process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing and implementing appropriating learning strategies and evaluating learning outcomes is a self-directed learning (Knowles, 2015). Knowles is the main educator behind the theory of andragogy or adult learning. He proposed that learners become increasingly self-directed as they mature. Merriam, Caffarella, Baumgartner (cited in cornel, 2015) have described three main goals for SDL as to enhance the ability of learners to be self-determined in their studies, to foster

transformational learning and to promote emancipatory learning. Teachers Guide is a teaching material in which teachers are self- directed by explained directions on it

On the basis of self- directed learning model it can be conclude that teachers' guide is a reference material which gives teachers the way or direction where to go and how to go the textbook contents. Teachers' guide consists of the objectives of each unit, teaching materials, possible teaching strategies and the evaluation procedure. Finally, it can be said that teachers' guide is blueprint, roadmap and helpful friend of the teachers to conduct classroom activities, effectively and smoothly.

Advantages of Using Teachers' Guide

Teachers' guide combines knowledge of discipline-related content and pedagogy-related content in reference to the objectives and contents of the ministry of education curriculum (Lea and Sara, 2012). It suggests that the teachers' guide is a teaching tool designed to expand and implement the curriculum. To specify, role of teachers' guide in implementing curriculum is significant. To move our teaching activity systematically and coherently use of teachers' guide is essential. Kigen (2000 a cited in Farooqui) claims that teachers' guide offers a variety of different options, teachers' feels safe, it enhances teachers' confident to deal with the classroom diversity. In addition, Bentov (1995) notes the teachers' guide is a reference material which formally represents the curriculum and that the teacher-users should develop teaching learning process that is most appropriate for their classes on their own. Advantages of teachers' guide can be discussed based on the following point as cited in Shrestha (2016, p. 66).

- Teachers' guide assists teachers' to use the textbook effectively.
- It enhances teachers' subjects matter confidence.

- It familiarizes teachers with new approaches to teaching and learning.
- It provides roadmap to the teacher in selecting teaching materials, teaching techniques and evaluation procedures.
- Similarly, it helps to accomplish the objectives of the curriculum.
- Finally, teachers manual avoid the teachers' confusion about what to teach, when to teach, how to teach and how to evaluate their students' performance.

Concluding, teachers' guide is one very important and useful tool to the teachers. It becomes life saver to the novice teachers' in their first year of teaching. Similarly, it provides roadmap to the teacher to move ahead effectively and appropriately. Furthermore, teachers' guide is a helping reference material to accomplish the determined objectives of the curriculum.

Practices of Teachers' Guide in Nepalese Context

Teachers' guide is no doubt a useful and important teaching reference material to conduct classroom activities purposively, effectively and coherently. It provides guidelines and roadmap to the teachers' in selecting appropriate teaching materials, teaching method and assessment procedure to accomplish the objectives of the curriculum. Thought it is important, useful and ground reality in Nepalese context. It means is useful but rarely found in local market of remote area of Nepal. In this reference, NCF (2009) though it is useful and important teaching materials, there are some comprehension availability, teachers' attitude and perception of head teachers' towards teachers' guide. Similarly, Shrestha (2016) argues that teachers' guide introduces new approaches to language teaching but it is not perceived as important materials in the

local area of our nation. To specify, real scorpia of practices of teachers' guide can be enlisted as follow on the basis of above mentioned literature.

- It is prepared by curriculum development center.
- It is no easily available in local as well as central area.
- Most of, not all head teachers' also don't aware about its importance.
- Many teachers think that reading teachers' guide and textbook are separate thing.

So that, they thought they are overloaded.

Finally, teacher guide is important and useful materials for the teachers' to adopt recently developed teaching strategies, it provides guidelines and another idea to conduct classroom activities. Though it is important, practically is different. For example, it is not available in the market, no network connect to all remote areas, negative and less aware behavior of the teacher impact to implement it effectively. Therefore, it seems that there should be good co-operation and co-ordination among the produces and consumer of it.

Perceptions of Teachers' Towards Teachers' Guide

Harden (2002, a cited in Lea and Sara 2012) the purpose of study guide is to generated meaningful learning: It offers a formal list of key topics on which the learner is required to dwell and also a list of skills the learner should master by the end of the study. According to Richards (1998 a cited in Farooqui, 2008) using the teacher's guide can have positive and negative impacts. On one hand, a teachers' guide can play a vital role for improving classroom learning strategies and other hand, teacher's ideas may be more useable than teachers' guide. It is explicitly found from the argument of Farooqui (2008) that the teachers' 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.

Similarly, a research conducted by Budha (2016) identifies that most of the teachers' have positive attitude toward teachers' guide. But few of them had negative attitude towards it. This claims that all the activities included in the teachers' guide cannot be implemented in the practical areas. To specify, the respondents of farooqui study expressed the following constraints of using teacher' guide as follows:

Time Constrains

In the study of Farooqui 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 teachers' guide then they finish their course on time.

Seating Arrangements

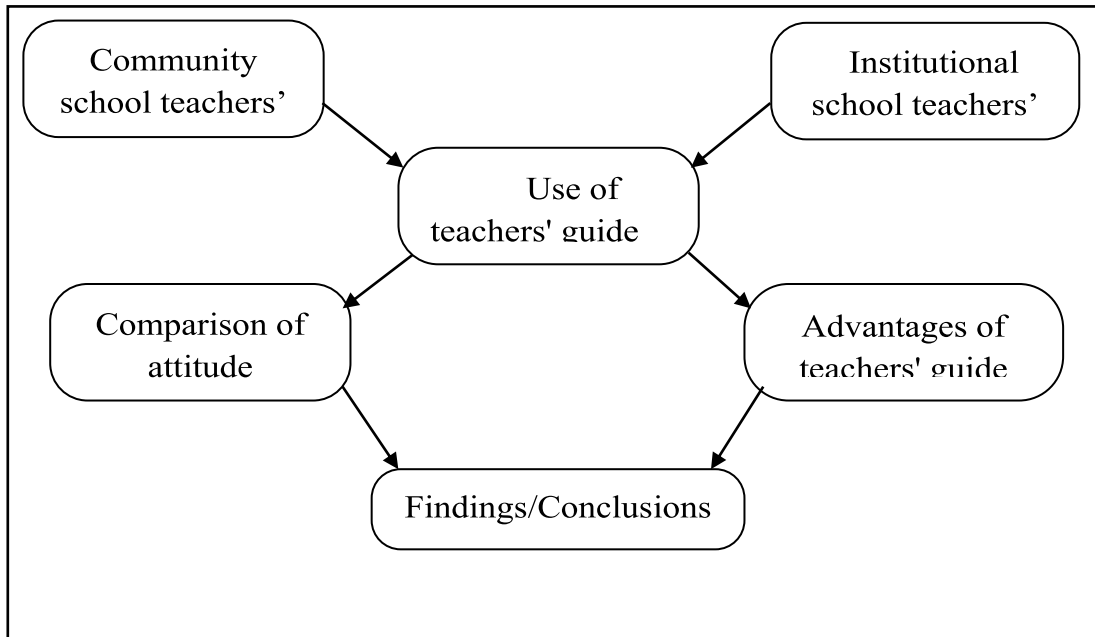
The seating arrangement in a classroom is also not appropriate for conducting pair work activities. Students sits are rows with desks facing the blackboards on long wooden benches, which line up and are bolted to the floor. There is hardly any space for the teachers to move around and see what the students are doing. Farooqui concludes that teachers' guide helps to the teachers to manage classroom appropriately.

Conceptual Framework of the Study

Conceptual framework is compulsory part of research because it gives direction to the researcher for to complete their work systematically, analytically and comparatively. A previous researcher Budha (2016) on the topic teachers' attitude towards using teachers' guide at primary level have given a conceptual framework to complete his study. Then, the researcher was followed on his framework as necessary component only.

So, The study teachers' attitude towards the use of teachers' guide at lower secondary and secondary level have the following conceptual framework to obtain the desired objectives of the research.

Table No. 1: Conceptual framework



Source: Budha, (2016)

Community and institutional schools are approved by government in different conditions. The researcher had studied about the attitude of community and institutional schools mathematics teachers towards the use of the teachers' guide and comparative study has completed on it. For this, in the above framework, the researcher collects the information about the teachers' attitudes towards teachers' guide by concerning its use and advantages. And then the researcher concludes about objective first.

Similarly, the researcher collects the information from both community and institutional schools about the attitude using teachers' guide and comparison had done for the valuable conclusion. Then the second objective was completed.

Chapter III

METHODS AND PROCEDURES

This chapter describes the method and procedures to fulfill related objectives of the study. The research was focused on "Teachers' attitude towards the use of teachers' guide at lower secondary and secondary level." The research method was survey, analytic, descriptive and comparative in nature. To complete the objectives of above mentioned topic; some component was necessary. So, this chapter contains sub-headings such as Design of the study, population of the study, sample of the study, data collection tools, data collection procedures, validation and reliability of tools, analysis and interpretation of data.

Design of the Study

Morriam-Webster (2017) states "research is a careful study that is done to find and report new knowledge about something." In this way the study was focused to find and report new knowledge about the teachers towards the use of teachers' guide. Attitude is characteristics of someone which can measure under the survey method by observation, questionnaire, interview and discussion. Thus the research design was survey under the quantitative in nature.

Population of the Study

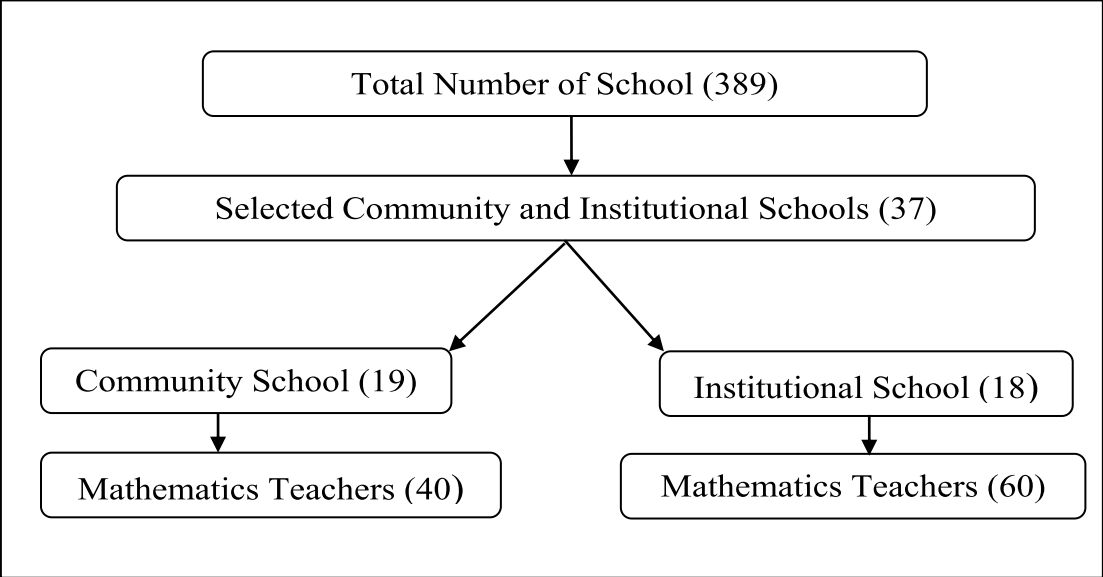
The population of the study was three hundred eighty nine school 1075 teachers who were teaching mathematics at lower secondary and secondary level from 6 to 10 of community and institutional schools in Lalitpur district.

Sample of the Study

Sampling is a vital part to make research valid and appropriate.

The researcher intend to investigate secondary level mathematics teachers' attitude towards the sue teachers' guide in teaching mathematics and mathematics learning. At first the data of community and institutional school of Lalitpur district was taken from District Education Office Lalitpur. The sample of the study was hundred (100) mathematics teachers' of both schools. The sample of the study was selected by adopting purposive sampling strategy with the help of name list of schools. In which forty (40) community and sixty (60) institutional school teachers were selected to fulfill the objectives of research.

Tab.No.2: Short framework of school and teachers of Lalitpur district



Data Collection Tools

The collection of the data for the study had done with the help of questionnaire. Attitude is not directly observable because of its invisible nature, leder and Forgerz (2002 a cited in Farooqui, 2008). So, it is a complicative to observe the teachers' attitude towards the teachers' guide. Questionnaire is a suitable tool to collect the valuable opinions of teachers. In this study the researcher had used 30 close-ended questionnaires.

Those statements were positive and negative both. Positive and negative both statement were modified under the guidelines from unpublished thesis Budha (2016). Likert-types scale was used for the convenience of the respondents under the five points. For each statements five options are given to the respondents as strongly agree (SA), agree (A), undecided (U), disagree (DA) and strongly disagree (SDA). And different weightage was given for each statements as 5, 4, 3, 2, and 1 respectively strongly agree (SA), agree (A), undecided (U), disagree (D) and strongly disagree (SDA).

Reliability and Validity of Data collection Tools

The validity of data collection tools of the study ensures on the basis of five categories of attitude development by Likert, research supervisor and unpublished thesis of Budha (2016). And to ensure the reliability, it was piloted on 10 mathematics teachers of community and institutional schools. The coefficient of reliability was found 0.83 by correlation coefficient. It indicates that there is highly reliability in the statements by Karl Pearson's scale.

Data Collection Procedure

Researcher's aim was to collect the information about questionnaire. At first the researcher was visited the district Education office Lalitpur to consult the information about schools .For this short briefing was conducted to district education officer about research work. Then by taking the student help card from the department of mathematics education the researcher was visited selected community and institutional school and talk about the research work to the head teacher. After a short talking with 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, researcher distributes questionnaires to the teacher by hopping to return it.

Also some clue will be given to the teacher that to follow only tick marks on the basis of following hints: Strongly agree, agree, undecided, disagree, strongly disagree. Similarly, the researcher was visited another selected school by distributing the questionnaire.

Analysis and Interpretation of Data

The collected data had analyzed and interpreted by using statistical technique as mean, standard deviation, χ^2 -test and t-test under the quantitative and descriptive method. χ^2 -test was used to test the community and institutional schools mathematics teachers' attitude towards the use of teachers' guide. Confidence interval is necessary for χ^2 -test and t-test. So, 95% confidence level (i.e. 0.05 level of significance) was used to compare them. The computational formula for χ^2 was used as

$$\chi^2 = \frac{\sum(f_o - f_e)^2}{f_e}$$

Where, f_o = observed frequency, f_e = expected frequency

The t-test was used to compare the attitude of community and institutional schools mathematics teachers' towards use of teachers' guide. The responses of the teachers' towards teachers' guide had occurred by questionnaire.

Chapter IV

ANALYSIS AND INTERPRETATION

In this study the chapter deals about the analysis and interpretation of the collected data including on the chapter third. The collected information from the informants is analyzed and interpreted to find out the teachers' attitude towards the use of teachers' guide at lower secondary and secondary level mathematics teachers of community and institutional schools of Lalitpur district. It is already mentioned that the researcher was build a tool as set of 30 questionnaires having positive and negative statements 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 headings of objectives.

1. Teachers' attitude towards the use of teachers' guide at lower secondary and secondary level.
2. Comparison of community and institutional school teachers' attitude towards the use of teachers' guide.

The χ^2 - test was used to test the attitude of teachers' at 0.05 level of significance and t-test was used to compare the attitude of community and institutional school mathematics teachers of sample schools. Moreover, all the statements of the questionnaire were analyzed and interpreted by using Likert scale as accepted, neutral and not accepted by obtaining the values more than three, three and less than three respectively.

Teachers' Attitude Towards the use of Teachers' Guide at Lower Secondary and Secondary Level in Mathematics.

The researcher included twenty three positive and seven negative statements in the questionnaire set related to the teachers' guide. Those positive and negative statements were categorized only three areas as text book, teaching materials and teaching strategies in order to assess their attitude. To find the attitude of teachers' towards the use of teachers' guide, the χ^2 -value was calculated on each statement. The researcher

indicates that the agree percent, disagree percent and undecided percent of each statements which are given in Appendix-F and mean score of each statements in Appendix- G.

The χ^2 -value of each statement at 0.05 level of significance has been given in the following table.

Table No.3

Areas	S.N.	Statements	χ^2 -value	Decision
Curriculum and Text book	1	The teachers' guide helps to fulfill the objectives of mathematics curriculum.	58.1	S
	2	It is good aspect that there is solution of some problems of text book.	73.7	S
	3	It should be easily available in the market.	29.9	S
	4	Allocated time and weight age of every lesson are fixed, that helps the teacher to finish the course on time.	79.7	S
	5	Textbook teaching materials given in teacher's guide are not suitable for the school of Nepal.	126.4	S
	6	Ample suggestion and hints are given to use the text book in teachers guide.	50.2	S
	7	The real problems faced by mathematics teacher while teaching mathematics are not identified by teachers' guide.	74.7	S
	8	The additional exercise made the guide standard.	61.5	S
	9	It becomes a real guide especially for the untrained teachers.	102.7	S
	10	The language of the guide is not simple and easy to understand.	64.5	S

	11	The topics in teachers' guide were arranged according to the text book.	69.7	S
	12	The weight age of marks of every topic for examination should be given in it.	21.9	S
	13	Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand.	57.3	S
	14	The examples given in teachers guide are related to the daily life activities and experiences of students.	93.5	S
Teaching materials	15	The design and finishing of mathematics Teachers' guide of secondary / lower secondary level mathematics is good.	83.5	S
	16	It has becomes the real guide for the teachers who are teaching compulsory mathematics at secondary /lower secondary level.	44.7	S
	17	It is just a guide of a text book.	69.4	S
	18	It is not necessary for the teacher's to make daily lesson plan because the objectives and instruction materials are mentioned on it.	65.1	S
	19	It would be better for both institutional and community schools mathematics teachers.	133.3	S
	20	In this guide, there is no error in printing and language.	137.2	S
	21	The examples, formulas and direction given to teach each unit or topic are not sufficient.	78.3	S
	22	The teacher's guide is costly.	90.0	S
Teaching strategies	23	The tactful solution for the difficult problems of the text book has not been given in teacher's guide.	48.6	S
	24	The guide would be more standard if new modern skills and techniques for effective teaching learning are included rather than	30.0	S

		solving the problems.		
25		It is not always accompanied all the mathematics teachers because of its significant guidance.	60.7	S
26		The figures are appropriate and useful for teachers.	63.1	S
27		The objectives of each topic were arranged on the basis of their level of difficulty (Simple to complex)	79.3	S
28		It would be more helpful for the teachers to make students more practicable if the model question sets were included in it.	61.4	S
29		The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it.	84.9	S
30		Appropriate methods are not given to prepare teaching material.	84.8	S

S- significance

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

From the above table no.3 the values of each statement have more than the value of χ^2 tabulated value i.e. all the χ^2 -value of 30 close-ended statements are highly significance. It indicates to the researchers that the teachers have positive attitude towards the use of teachers' guide.

From the appendix-F and G, the statement no.1 "The teachers' guide helps to fulfill the objectives of mathematics curriculum." In this statement 69% teachers accepted the statement. The mean score of the statements is 3.52. It concludes that most of the teachers had positive attitude with different opinions.

The statement no. 2 "It is good aspect that there is solution of some problems of text book." In this statement 82% teachers accepted the statement. The mean score

of the statement is 3.95. It indicates the researcher that teachers had positive attitude towards the teachers' guide.

The statement no. 3 "It should be easily available in the market." In this statement 53% teachers are agree, 41% teachers are disagree and 6% are undecided. The mean score of the statement is 3.07. It concluded that teachers had positive attitude.

The statement no. 4 "Allocated time and weight age of every lesson one fixed, that helps the teacher to finish the course on time." For this statement 87%, 11% and 2% teachers are agree, disagree and undecided respectively. The mean score of the statement is 4.26. It indicates that most of the teachers are agree to use teachers guide at school level.

On the statement 5th "Teaching materials given in teachers' guide are not suitable for the school of Nepal." In this statement 13% agree, 84% disagree and 3% teachers are undecided respectively. The mean score of the statement is 4.31. It concluded that most of the teachers are disagree on that statement. This statement is no.1 unfavorable statement of this research.

The statements no. 6 "Ample suggestion and hints are given to use the text book in teachers' guide." In this statement 76% teachers are agree and 24% are disagree. The mean score of the statement is 3.90. So, the researchers concluded that teachers have positive attitude towards teachers' guide.

The statement no. 7 "The real problems faced by mathematics teachers' while teaching mathematics are not identified by teacher's guide." In this statement 80% teachers are accepted the statement. The mean score of the statement is 2.10. It indicates that teachers had positive attitude towards guide.

The statement no. 8 "The additional exercise made the guide standard." In this statement 75% teachers are agree. The mean score of the statement is 3.57. It concluded that most of the teachers had positive attitude towards the statement.

The statement no. 9 "It becomes a real guide especially for the untrained teachers." In this statement 89% teachers are agree, 11% are disagree and no any are undecided. The mean score of the statement is 4.32. It shows that most of the teachers had positive attitude towards this statement. It is second accepted statement of the teacher both community and institutional schools.

The statement no. 10 "The language of the guide is not simple and easy to understand." In this statement 18% teachers are agree. The mean score of the statement is 4.11. It shows that most of the teachers are disagree on it. It is second statement of the research in which teachers are disagree.

The statement no. 11 "The topics in teachers' guide were arranged according to the text book." In this statement 68% are agree and 32% are disagree. The mean score of the statement is 3.51. It concludes that teachers have positive attitude in this statement.

The statement no. 12 "The weightage of marks of every topic for examination should be given in it." In this statement 29% teachers are agree, 64% disagree and 9% are undecided. The mean score of the statement is 2.47. It shows that the teachers are not positive on it. It is the first statement in which most of the teachers are undecided comparison to others.

The statement no. 13 "Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand." In this statement 82% teachers are agree. The mean score of the statement is 3.80. It shows that most of the teachers are accepted the statement.

On the statement no. 14th "The examples given in teachers guide are related to the daily life activities and experience of student." 80% teachers are agree 17% are disagree and 3% are undecided. The mean score of the statement is 3.53. It helps the researcher to conclude that most of the teachers have positive attitude towards teachers guide.

On the statement no. 15th "The design and finishing of mathematics teachers' guide of secondary/lower secondary level mathematics is good." 68% teachers' are agree, 31% are disagree and 1% are undecided. The mean score of the statement is 3.53. It concludes that teachers' have positive attitude towards this statement.

The statement no. 16 "It has become the real guide for the teachers who are teaching compulsory mathematics at secondary/lower secondary." In this statement 65% teachers are agree, 35% disagree and no anyone are undecided. The mean score of the statement is 3.32. It concludes that the statement is accepted by teachers.

The statement no. 17 "It is just a guide of a text book." In this statement 26% teachers are agree, 70% disagree and 4% are undecided. It shows that this statement is rejected by teachers because of the mean score is 2.44.

The statement no. 18 "It is not necessary for the teachers' to make daily lesson plan because the objectives and instruction materials are mentioned on it." In this statement 25% are agree and 77% are disagree. The mean score of the statement is 3.72 which show that there is not positive attitude of teachers towards this statement.

The statement no. 19 "It would be better for both community and institutional schools mathematics teachers." In this statement 92% teachers are agree, 8% are disagree and on any one are undecided. The mean score is 4.47. It helps the researcher to conclude that there is positive attitude towards the teachers' guide. It is first statement of this research in which almost teachers are positive towards teacher's guide.

The statement no. 20 "In this guide, there is error in printing and language." In this statement 88% teachers are agree, 10% disagree and 2% are undecided. The mean score of the statement is 4.00. It shows that teachers have positive attitude towards on the statement.

The statements no. 21 "The examples, formulas and directions given to each unit or topic are not sufficient." In this statement 81% teachers' are agree. The mean

score of the statement is 1.58. It helps the researcher to conclude that teachers have positive attitude.

The statement no. 22 "The teacher's guide is costly." In this statement 70% teachers' are agree and 30% are disagree. The mean score of the statement is 3.48. It concludes that teachers have positive attitude towards this statement.

The statement no. 23 "The tactful solutions for the difficult problems of the text book have not been given in teachers' guide." 76% teachers are agree. The mean score of the statement is 2.22. It helps to conclude that teachers have positive attitude towards this statement.

The statement no. 24 "The guide would be more standard if new modern skills and techniques for effective teaching, learning are included rather than solving the problems." In this statement 52% teachers' are agree, 47% are disagree and 1% are undecided. The mean score of the statement is 3.18 which conclude that teachers are positive towards this statement.

The statement no. 25 "It is not always accompanied all the mathematics teachers because of its significant guidance." In this statement teachers are 21% agree, 74% disagree and 3% are undecided. The mean score of the statement is 3.72. It shows that there is rejection on teachers' positive attitude towards the statement.

The statement no. 26 "The figures are appropriate and useful for teacher." In this statement 71% are agree, 27% are disagree and 2% are undecided. The mean score is 3.59. So, the researchers conclude that there is positive attitude of teachers towards this statement.

On the statement no. 27 "The objectives of each topic were arranged on the basis of their level of difficulty (simple to complex)." 83% teachers are agree. The mean score is 3.93/ it decided that teachers have positive attitude towards this statement.

The statement no. 28 "It would be more helpful for the teachers to make students more practicable if the model questions set were included in it." In this statement 67% teachers are agree, 32% are disagree and 1% are undecided. The mean score is 3.43. It concluded that teachers have positive attitude towards on it.

The statementno. 29 "The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it."In this statement 79% teachers' are accepted the statement. The mean score is 3.83. It concludes that teachers have positive attitude on this statement.

On the statement no. 30 "Appropriate methods are not given to prepare teaching material." 42% teachers are agree, 57% are disagree and 1% are undecided. The mean score of the statement is 3.13. it shows to conclude that teachers have negative attitude towards this statement.

From the above analysis each statementwas highly significant. Among the 30 statements, 23 statements have positive and 7 have negative attitude of community and institutional school mathematics teachers. In the average 63.56% teachers are agree in the statements and mean attitude score of these statements is 3.46.

Hence, the researcher was found teachers had positive attitude towards the use of teachers guide on the study of Sabrin Farooqui and Bharat Lea and Hauptman Sara. Similarly, the researcher concludes from the above analysis and interpretation that most of the teachers have positive attitude towards the use of teachers' guide in community and institutional school at lower secondary and secondary level in mathematics of Lalitpur district.

Comparison of Community and Institutional Schools Mathematics Teachers' Attitude Towards the use of Teachers' Guide.

The community and institutional school mathematics teachers were asked 30 statements belonging towards the teacher's guide. In this study the researcher established two objectives.

Among them first objective previously analyzed by using χ^2 statistics. But the second objective was to compare between the attitude of community and institutional school mathematics teachers on teachers' guide. For this purpose, the researcher has constructed the following null hypothesis (H_0).

There is no significance difference between the attitude of community and institutional schools mathematics teachers towards the use of teachers' guide. To verify this hypothesis, the attitude scores of community and institutional school mathematics teachers are given in appendix-C and D.

The mean attitude scores of community and institutional schools mathematics teachers towards the use of teachers' guide have compared with the help of t-test. The result of the analysis is presented in the following table.

Table No.4

Comparison of Attitude of Community and Institutional School Teachers' Towards the Use of Teachers' Guide

School	Sample (N)	Mean (\bar{X})	Standard Deviation (S.D.)	D.F.	t-value
Community	40	139.86	15.36	98	-0.009
Institutional	60	199.13	50.71		

Critical region $t_{\alpha/2, v} = t_{0.025, 31} = 1.96$

N=sample size, d.f.= degree of freedom (N_1+N_2-2)

From the above table the mean score of community and institutional school mathematics teachers are 139.86 and 199.13 respectively, which were significantly difference with the standard deviation 15.36 and 50.71. The computed t-value was found -0.009 which lies between the critical region at 0.05 level of significance.

Hence, the calculated t-value did not fall outside the critical region. i.e. null hypothesis (H_0) is accepted. So, the researcher concluded that there is no significance

difference between the attitude of community and institutional school mathematics teachers' towards the use of teachers' guide.

In this study the researcher was reviewed two journal titled as Teachers Perceptions of Textbook and Teacher' Guide in Secondary English Education in Bangladesh by Sabrin Faroogui and Attitude of Student-teachers' Towards Written Teachers' Guide by Baratr Lea and Hauptman sara in Israel. Above mentioned study were directly related to this research topic 'teacher attitude towards use of teachers' guide' as the components teachers' attitude and use of teachers' guide.

The study of Sabrin Faroogui was employed a qualitative approach to examine teachers' perception of new textbook and teachers' guide. Those studies of Faroogui and mine had a same perception response regarding the teachers' guide. According to these research participations, the guide is very helpful in guiding how to teach the textbook but not possible to conduct all the activities of this book according to the guidelines in the teachers' guided.

Similarly, in the research of above mentioned area Lea and Sara were aimed to examine in what sense and how teachers' guide can be to that promotes teaching and learning of students-teachers of Hebrew literature in Israel. In this study of Lea and Sara had taken the research population included 21 student-teacher by survey design and a set closed-ended questionnaire was used as a tool, which was same as mine study. Finally, it conduced that there was positive attitude towards the use of teachers' guide in the above both mentioned and present research study.

Chapter V

SUMMARY, FINDING, CONCLUSION AND RECOMMENDATION

This chapter deals about the summary, finding, conclusions and the recommendations of further study.

Summary of the Study

In this study, the researcher was selected a topic teachers' attitude towards the use of teachers' guide. Under this topic the researcher was established two objectives as:

- To find out the attitude of lower secondary and secondary mathematics teachers' towards the use of teachers' guide.
- To compare the attitude of community and institutional school mathematics teachers' towards the use of teachers' guide.

To fulfill the objectives of the study, the researcher collected the data by the tool of questionnaire under the 'Likert' five attitude scale in survey design of quantitative method. The population of the study 1075 was considered as all the secondary and lower secondary level mathematics teachers of Lalitpur district. The sample was selected as purposive sampling strategy from 40 community and 60 institutional teachers of 19 and 17 schools as listed in Appendix I and J respectively.

A set of 30 (positive and negative) questionnaires were developed as the tool for collection data. The questionnaire had five level of statements strongly agree, agree, undecided, disagree and strongly disagree of Likert scale. The χ^2 -test, mean attitude score and percentage were used to determine the attitude of teachers towards the use of teachers' guide at lower secondary and secondary level of Lalitpur district. And the t-test, mean score and standard deviation were used to determine the significance difference between community and institutional schools mathematics teachers. The tool of the study was assumed valid and reliable because it was already used on the study of K. B. Budha and reliability was based on pilot test. In the study the tools were only modified by level of school.

In this study all the statements were analyzed by χ^2 -test, t-test, mean and percentage. Lastly, the researcher found that teachers had positive attitude towards the use of teachers' guide and there is no significance difference between community and institutional school mathematics teachers' towards use of teachers' guide.

Findings of the Study

In the study the statistics χ^2 -test and t-test in attitude were used to analyze for objectives first and second respectively. After the analysis of collected data the following results were found.

- Calculated χ^2 - value of each statement had greater value than the tabulated χ^2 - value 9.48. So, the researcher found the mathematics teachers have positive attitude towards the use of teachers' guide.
- Calculated t-value lies between the critical regions $-1.96 \leq t \leq 1.96$. So, the null hypothesis is accepted. (i.e. there is no significance difference between the attitude of mathematics teachers of community and institutional schools towards the use of teachers' guide.)
- Among the 30 statements, 23 statements had positive and 7 statements had negative attitude of teachers. (i.e. 23 statements mean score had greater than or equal to 3 and 7 statements had less than 3 in Likert scale, see neg. statements no.5, 10, 12, 17, 18, 25 and 30 in Appendix-G)
- In the whole statements of questionnaire, 63.56% teachers were agree in the statements.
- The mean attitude score of the statements was 3.46.
- The t-value of the community and institutional schools was -0.009.

Furthermore, researcher found the following suggestions from teachers by using their fulfilled questionnaire. (See statements 2, 4, 7, 8, 19 and 21 in Appendix-G)

- Hints for difficult problems of mathematics textbook should be given in teachers' guide.

- In the teachers' guide time and mark weight age should be given for each topic and lessons of mathematics textbook.
- Actually, teachers' guide does not identify real problems of mathematics teacher while teaching mathematics in classroom.
- Additional exercise for the students of mathematics test book should be including on teachers' guide.
- Teachers' guide is a good aspect for both community and institutional schools mathematics teachers while teaching mathematics in the classroom.
- More than one example, formula and directions should be including on the teachers' guide.

Conclusions of the Study

It concludes that teachers' guide is important for both community and institutional mathematics teachers. It helps the teachers to encourage the students by using different techniques on a single problem. In addition, it is a real guide for untrained teachers who are starting their profession as teaching.

Mainly, the study concluded as:

- There is positive attitude towards the use of teachers' guide at lower secondary and secondary level of Lalitpur district.
- There is no significance difference between the attitude of community and institutional school mathematics teachers of Lalitpur district.

Thus, the use of teachers' guide supports mathematics teacher to teach mathematics effectively in classroom.

Recommendations for Further Study

The researcher argues that the conclusion of the study may not be generalized to all the teachers because of its limitation. From the study the following recommendations are given.

- Researcher can study for other levels on teachers' guide.

- Researcher can study to another district on teachers' guide.
- Researcher can study in the vague area as Kathmandu Valley on the same topic.
- Researcher can study by taking other tools except questionnaire.
- Researcher can study by taking more than two objectives 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:

Tick the best one of the following clue Strongly Agree(SA), Agree(A), Undecided(U), Disagree(DA) or Strongly Disagree (SDA) of the given statements.

Areas	S.N.	Statements	SA	A	U	DA	SDA
Curriculum and text book	1	The teacher's guide helps to fulfill the objectives of mathematics curriculum.					
	2	It is good aspect that there is solution of some problems of text book.					
	3	It should be easily available in the market.					
	4	Allocated time and weight age of every lesson are fixed, that helps the teacher to finish the course on time.					
	5	Textbook teaching materials given in teacher's guide are not suitable for the school of Nepal.					
	6	Ample suggestion and hints are given to use the text book in teachers guide.					
	7	The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher's guide.					
	8	The additional exercise made the guide standard.					
	9	It becomes a real guide specially for the untrained teachers.					
	10	The language of the guide is not simple and easy to understand.					
	11	The topics in teachers guide were arranged					

		according to the text book.					
	12	The weight age of marks of every topic for examination should be given in it.					
	13	Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand.					
	14	The examples given in teachers guide are related to the daily life activities and experiences of students.					
Teaching materials	15	The design and finishing of mathematics Teachers' guide of secondary / lower secondary level mathematics is good.					
	16	It has becomes the real guide for the teachers who are teaching compulsory mathematics at secondary /lower secondary level.					
	17	It is just a guide of a text book.					
	18	It is not necessary for the teacher's to make daily lesson plan because the objectives and instruction materials are mentioned on it.					
	19	It would be better for both institutional and community schools mathematics teachers.					
	20	In this guide, there is no error in printing and language.					
	21	The examples, formulas and direction given to teach each unit or topic are not sufficient.					
	22	The teacher's guide is costly.					
Teaching strategies	23	The tactful solution for the difficult problems of the text book have not been given in teacher's guide.					
	24	The guide would be more standard if new modern skills and techniques for effective teaching learning are included rather than solving the problems.					

25	It is not always accompanied all the mathematics teachers because of its significant guidance.					
26	The figure are appropriate and useful for teachers.					
27	The objectives of each topic were arranged on the basis of their level of difficulty (Simple to complex)					
28	It would be more helpful for the teachers to make students more practicable if the model question sets were included in it.					
29	The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it.					
30	Appropriate methods are not given to prepare teaching material.					

Appendix-B**Responses of Lower Secondary and Secondary Level Mathematics Teachers**

Areas	S.N.	Statements	SA	A	U	DA	SDA
Curriculum and text book	1	The teacher's guide helps to fulfill the objectives of mathematics curriculum.	19	50	0	26	5
	2	It is good aspect that there is solution of some problems of text book.	52	32	0	11	5
	3	It should be easily available in the market.	14	39	6	22	19
	4	Allocated time and weight age of every lesson are fixed, that helps the teacher to finish the course on time.	50	37	2	11	0
	5	Textbook teaching materials given in teacher's guide are not suitable for the school of Nepal.	3	10	3	21	63
	6	Ample suggestion and hints are given to use the text book in teachers guide.	43	33	0	19	5
	7	The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher's guide.	34	46	1	14	5
	8	The additional exercise made the guide standard.	10	65	5	12	8
	9	It becomes a real guide specially for the untrained teachers.	59	30	0	3	8
	10	The language of the guide not simple and easy to understand.	0	18	2	31	49
	11	The topics in teachers guide were arranged according to the text book.	17	51	0	30	2
	12	The weight age of marks of every topic for examination should be given in it.	12	17	9	30	32
	13	Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand.	37	45	0	14	4
	14	The examples given in teachers guide are	24	56	3	10	7

		related to the daily life activities and experiences of students.					
Teaching materials	15	The design and finishing of mathematics Teachers' guide of secondary / lower secondary level mathematics is good.	18	50	1	29	2
	16	It has becomes the real guide is for the teachers who are teaching compulsory mathematics at secondary /lower secondary level.	16	49	0	21	14
	17	It is just a guide of a text book.	7	19	4	51	19
	18	It is not necessary for the teacher's to make daily lesson plan because the objectives and instruction materials are mentioned on it.	9	16	0	54	23
	19	It would be better for both institutional and community schools mathematics teachers.	66	26	0	5	3
	20	In this guide, there is no error in printing and language.	24	64	2	8	2
	21	The examples, formulas and direction given to teach each unit or topic are not sufficient.	37	44	1	16	2
	22	The teacher's guide is costly.	12	58	0	26	4
Teaching strategies	23	The tactful solution for the difficult problems of the text book have not been given in teacher's guide.	31	45	0	19	5
	24	The guide would be more standard if new modern skills and techniques for effective teaching learning are included rather than solving the problems.	23	29	1	27	30
	25	It is not always accompanied all the mathematics teachers because of its significant guidance.	7	16	3	46	28
	26	The figure are appropriate and useful for teachers.	23	48	2	19	8
	27	The objectives of each topic were arranged on the basis of their level of difficulty (Simple to	29	54	0	15	2

	complex)					
28	It would be more helpful for the teachers to make students more practicable if the model question sets were included in it.	19	48	1	21	11
29	The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it.	22	57	2	19	0
30	Appropriate methods are not given to prepare teaching material.	9	33	1	50	7

Appendix-C**Responses of Community Schools Mathematics Teachers**

Areas	S.N.	Statements	SA	A	U	DA	SDA
Curriculum and text book	1	The teacher's guide helps to fulfill the objectives of mathematics curriculum.	8	23	0	9	0
	2	It is good aspect that there is solution of some problems of text book.	23	14	0	3	0
	3	It should be easily available in the market.	5	11	2	14	8
	4	Allocated time and weight age of every lesson are fixed, that helps the teacher to finish the course on time.	22	18	0	0	0
	5	Textbook teaching materials given in teacher's guide are not suitable for the school of Nepal.	1	3	0	9	27
	6	Ample suggestion and hints are given to use the text book in teachers guide.	21	13	0	5	1
	7	The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher's guide.	15	21	0	4	2
	8	The additional exercise made the guide standard.	4	28	2	3	3
	9	It becomes a real guide especially for the untrained teachers.	27	17	0	1	2
	10	The language of the guide is not simple and easy to understand.	0	6	1	10	23
	11	The topics in teachers guide were arranged according to the text book.	7	25	0	7	1
	12	The weight age of marks of every topic for examination should be given in it.	5	8	2	14	11
	13	Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand.	14	17	0	6	3
	14	The examples given in teachers guide are	10	25	1	2	2

		related to the daily life activities and experiences of students.					
Teaching materials	15	The design and finishing of mathematics Teachers' guide of secondary / lower secondary level mathematics is good.	7	24	0	8	1
	16	It has becomes the real guide for the teachers who are teaching compulsory mathematics at secondary /lower secondary level.	7	21	0	9	3
	17	It is just a guide of a text book.	3	9	1	23	4
	18	It is not necessary for the teacher's to make daily lesson plan because the objectives and instruction materials are mentioned on it.	4	7	0	20	9
	19	It would be better for both institutional and community schools mathematics teachers.	29	9	0	2	0
	20	In this guide, there is no error in printing and language.	9	29	0	2	0
	21	The examples, formulas and direction given to teach each unit or topic are not sufficient.	16	17	0	6	1
	22	The teacher's guide is costly.	6	27	0	6	1
Teaching strategies	23	The tactful solution for the difficult problems of the text book have not been given in teacher's guide.	13	19	0	6	2
	24	The guide would be more standard if new modern skills and techniques for effective teaching learning are included rather than solving the problems.	8	8	0	13	11
	25	It is not always accompanied all the mathematics teachers because of its significant guidance.	3	6	2	22	7
	26	The figure are appropriate and useful for teachers.	11	20	0	7	2
	27	The objectives of each topic were arranged on the basis of their level of difficulty (Simple to	12	25	0	3	0

	complex)					
28	It would be more helpful for the teachers to make students more practicable if the model question sets were included in it.	8	20	0	7	5
29	The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it.	9	24	1	6	0
30	Appropriate methods are not given to prepare teaching material.	3	14	0	19	3

Appendix-D**Responses of Institutional Schools Mathematics Teachers**

Areas	S.N.	Statements	SA	A	U	DA	SDA
Curriculum and Text book	1	The teacher's guide helps to fulfill the objectives of mathematics curriculum.	11	27	0	17	5
	2	It is good aspect that there is solution of some problems of text book.	29	18	0	8	5
	3	It should be easily available in the market.	9	28	4	8	11
	4	Allocated time and weight age of every lesson are fixed, that helps the teacher to finish the course on time.	28	19	2	11	0
	5	Textbook teaching materials given in teacher's guide are not suitable for the school of Nepal.	2	7	3	12	36
	6	Ample suggestion and hints are given to use the text book in teachers guide.	22	20	0	14	4
	7	The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher's guide.	19	25	1	10	3
	8	The additional exercise made the guide standard.	6	37	3	9	5
	9	It becomes a real guide especially for the untrained teachers.	32	20	0	2	6
	10	The language of the guide is not simple and easy to understand.	0	12	1	21	26
	11	The topics in teachers guide were arranged according to the text book.	10	26	0	23	1
	12	The weight age of marks of every topic for examination should be given in it.	7	9	6	16	21

	13	Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand.	23	28	0	7	2
	14	The examples given in teachers guide are related to the daily life activities and experiences of students.	14	31	2	8	5
Teaching materials	15	The design and finishing of mathematics Teachers' guide of secondary / lower secondary level mathematics is good.	11	26	1	20	1
	16	It has becomes the real guide for the teachers who are teaching compulsory mathematics at secondary /lower secondary level.	9	28	0	12	11
	17	It is just a guide of a text book.	4	10	3	28	15
	18	It is not necessary for the teacher's to make daily lesson plan because the objectives and instruction materials are mentioned on it.	5	9	0	24	14
	19	It would be better for both institutional and community schools mathematics teachers.	36	17	0	3	3
	20	In this guide, there is no error in printing and language.	15	35	2	6	2
	21	The examples, formulas and direction given to teach each unit or topic are not sufficient.	21	27	1	10	1
	22	The teacher's guide is costly.	6	31	0	20	3
Teaching strategies	23	The tactful solution for the difficult problems of the text book have not been given in teacher's guide.	18	26	0	13	3
	24	The guide would be more standard if new modern skills and techniques for effective teaching learning are included rather than solving the problems.	15	21	1	14	19
	25	It is not always accompanied all the mathematics teachers because of its significant	4	10	1	24	21

	guidance.					
26	The figure are appropriate and useful for teachers.	12	28	2	12	6
27	The objectives of each topic were arranged on the basis of their level of difficulty (Simple to complex)	17	30	0	12	2
28	It would be more helpful for the teachers to make students more practicable if the model question sets were included in it.	11	28	1	14	6
29	The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it.	13	33	1	13	0
30	Appropriate methods are not given to prepare teaching material.	6	19	1	31	5

Appendix-E**Responses of all the Mathematics Teachers' Towards the Teachers' Guide.**

Areas	S.N.	Statements	χ^2 -value	Decision
Curriculum and text book	1	The teacher's guide helps to fulfill the objectives of mathematics curriculum.	58.1	S
	2	It is good aspect that there is solution of some problems of text book.	73.7	S
	3	It should be easily available in the market.	29.9	S
	4	Allocated time and weight age of every lesson are fixed, that helps the teacher to finish the course on time.	79.7	S
	5	Textbook teaching materials given in teacher's guide are not suitable for the school of Nepal.	126.4	S
	6	Ample suggestion and hints are given to use the text book in teachers guide.	50.2	S
	7	The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher's guide.	74.7	S
	8	The additional exercise made the guide standard.	61.5	S
	9	It becomes a real guide especially for the untrained teachers.	102.7	S
	10	The language of the guide is not simple and easy to understand.	64.5	S
	11	The topics in teachers guide were arranged according to the text book.	69.7	S
	12	The weight age of marks of every topic for examination should be given in it.	21.9	S
	13	Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand.	57.3	S

	14	The examples given in teachers guide are related to the daily life activities and experiences of students.	93.5	S
Teaching materials	15	The design and finishing of mathematics Teachers' guide of secondary / lower secondary level mathematics is good.	83.5	S
	16	It has becomes the real guide for the teachers who are teaching compulsory mathematics at secondary /lower secondary level.	44.7	S
	17	It is just a guide of a text book.	69.4	S
	18	It is not necessary for the teacher's to make daily lesson plan because the objectives and instruction materials are mentioned on it.	65.1	S
	19	It would be better for both institutional and community schools mathematics teachers.	133.3	S
	20	In this guide, there is no error in printing and language.	137.2	S
	21	The examples, formulas and direction given to teach each unit or topic are not sufficient.	78.3	S
	22	The teacher's guide is costly.	90.0	S
Teaching strategies	23	The tactful solution for the difficult problems of the text book have not been given in teacher's guide.	48.6	S
	24	The guide would be more standard if new modern skills and techniques for effective teaching learning are included rather than solving the problems.	30.0	S
	25	It is not always accompanied all the mathematics teachers because of its significant guidance.	60.7	S
	26	The figure are appropriate and useful for teachers.	63.1	S
	27	The objectives of each topic were arranged on	79.3	S

		the basis of their level of difficulty (Simple to complex)		
28		It would be more helpful for the teachers to make students more practicable if the model question sets were included in it.	61.4	S
29		The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it.	84.9	S
30		Appropriate methods are not given to prepare teaching material.	84.8	S

S = significance

Appendix-F**Percentage of Responses of all the Mathematics Teachers on each Statement.**

S.N	A	D	U	A%	D%	U%
1.	69	31	0	69	31	0
2.	82	16	0	82	16	0
3.	53	41	6	53	41	6
4.	87	11	2	87	11	2
5.	13	84	3	13	84	3
6.	76	24	0	76	24	0
7.	80	19	1	80	19	1
8.	75	20	5	75	10	5
9.	89	11	0	89	11	0
10.	18	80	2	18	80	2
11.	68	32	0	68	32	0
12.	29	64	9	29	64	9
13.	82	18	0	82	18	0
14.	80	17	3	80	17	3
15.	68	31	1	68	31	1
16.	65	35	0	65	35	0
17.	26	70	4	26	70	4
18.	25	77	0	25	77	0
19.	92	8	0	92	8	0
20.	88	10	2	88	10	2
21.	81	18	1	81	18	1
22.	70	30	0	70	30	0
23.	76	34	0	76	34	0
24.	52	47	1	52	47	1
25.	21	74	3	21	74	3

26.	71	27	2	71	27	2
27.	83	17	0	83	17	0
28.	67	32	1	67	32	1
29.	79	19	2	79	19	2
30.	42	58	1	42	58	1

A = Strongly Agree + Agree, D = Strongly Disagree + Disagree,

U = Undecided, Agree% = 63.56

Appendix-G**Total Score and Mean Score Obtained by Attitude Score**

Areas	S. N.	Statements	Total score	Mean score
Curriculum and Text book	1	The teacher's guide helps to fulfill the objectives of mathematics curriculum.	352	3.52
	2	It is good aspect that there is solution of some problems of text book.	395	3.95
	3	It should be easily available in the market.	307	3.07
	4	Allocated time and weight age of every lesson are fixed, that helps the teacher to finish the course on time.	426	4.26
	5	Textbook teaching materials given in teacher's guide are not suitable for the school of Nepal.	169	4.31
	6	Ample suggestion and hints are given to use the text book in teachers guide.	390	3.90
	7	The real problems faced by mathematics teacher while teaching mathematics are not identified by teacher's guide.	390	2.10
	8	The additional exercise made the guide standard.	357	3.57
	9	It becomes a real guide specially for the untrained teachers.	432	4.32
	10	The language of the guide is not simple and easy to understand.	189	4.11
	11	The topics in teachers guide were arranged according to the text book.	351	3.51
	12	The weight age of marks of every topic for examination should be given in it.	247	2.47
	13	Every mathematics words are given in both English as well as in Nepali language that makes the teachers easy to understand.	397	3.97
	14	The examples given in teachers guide are related	380	3.80

		to the daily life activities and experiences of students.		
Teaching materials	15	The design and finishing of mathematics Teachers' guide of secondary / lower secondary level mathematics is good.	353	3.53
	16	It has becomes the real guide for the teachers who are teaching compulsory mathematics at secondary /lower secondary level.	342	3.42
	17	It is just a guide of a text book.	244	2.44
	18	It is not necessary for the teacher's to make daily lesson plan because the objectives and instruction materials are mentioned on it.	240	3.72
	19	It would be better for both institutional and community schools mathematics teachers.	447	4.47
	20	In this guide, there is no error in printing and language.	400	4.00
	21	The examples, formulas and direction given to teach each unit or topic are not sufficient.	398	1.58
	22	The teacher's guide is costly.	348	3.48
Teaching strategies	23	The tactful solution for the difficult problems of the text book have not been given in teacher's guide.	378	2.22
	24	The guide would be more standard if new modern skills and techniques for effective teaching learning are included rather than solving the problems.	318	3.18
	25	It is not always accompanied all the mathematics teachers because of its significant guidance.	228	3.72
	26	The figure are appropriate and useful for teachers.	359	3.59
	27	The objectives of each topic were arranged on the basis of their level of difficulty (Simple to complex)	393	3.93

28	It would be more helpful for the teachers to make students more practicable if the model question sets were included in it.	343	3.43
29	The ambiguities for the teachers about what to do in classroom have been removed by the teaching learning activities given in it.	382	3.82
30	Appropriate methods are not given to prepare teaching material.	240	3.13

Average mean = 3.46

Appendix-H**Comparison Between the Attitude of Community and Institutional School****Mathematics Teachers.**

Schools	Sample (N)	Mean (x)	Standard Deviation	D.F	t-value
community	40	139.86	15.36	98	-0.009
Institutional	60	199.13	50.71		

Critical Region $t_{\frac{\alpha}{2}, \nu} = t_{0.025, 98} = -0.009$

Appendix –I**List of Community Schools**

S.N	Schools Name	Number of Teachers
1	Namuna machhindra secondary school, Lagankhel	4
2	Mahendra vrikuti secondary school, Lagankhel	2
3	Kshramjit kishor secondary school, Lagankhel	2
4	Pravata H.S. school, Lagankhel	2
5	Mahalaxi L.S. school, Lagankhel	1
6	Shanty vidyaakshram H.S. school,Lagankhel	2
7	AdarshkanyaNiketan, S.School, Mangalbajar	2
8	Kshramik shanty H.S. school,	3
9	Tika H.S. School ,Shanepa	2
10	Pragatishikshyasadan S. School, Kupandol	3
11	KshramikBlbigyan L.S. School, Kupandol	1
12	Balbinod S. School, Shanepa	2
13	LalitkalyankendarL.H.School, lagankhel	2
14	MimnathaAdrshaL.S.School,Mangalbajar	2
15	PatanH.S.School,Patandhoka	2
16	BanibilashaH.S.school,Chapagau	2
17	BajrabarahiH.S.School, Chapagau	3
18	Udayakharaka S. school ,Chapagau	2
19	SharadaS.school, Imadol	2

Appendix-J**List of Institutional Schools**

S.N	Schools Name	Number of Teachers
1	Avensha Academi H.S.School , Lagankhel	3
2	Namuna Machhindra Awashiya S.School, Lagankhel	2
3	Avens boarding School, Dhobighat	2
4	Paribodh S. School , Dhobighat	3
5	Rupak Memorial H.S. School ,Shanepa	3
6	Dynamic Public school, Shanepa	3
7	GyandipaVidayakshramS.School, Shanepa	3
8	Nagaratha , S.School, Shanepa	3
9	Nil StrimacademiS.School, Shanepa	3
10	Paradise School, Shanepa	4
11	Shaining star S. School, Shanepa	4
12	Shuvatara S. School , Shanepa	7
13	Goldenreja S. School, Dhobighat	2
14	Iel model H.S.School, Dhobighat	5
15	Manjukshri boarding school, Dhobighat	3
16	Campian H.S. School, Lagankhel	3
17	Global H.S.School, Lagankhel	3
18	Sharswatividyamandir, Lagankhel	4

