

**ATTITUDES OF TEACHERS AND STUDENTS TOWARDS LETTER  
GRADING SYSTEM IN S.L.C**

**A  
THESIS  
BY**

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**FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE  
DEGREE OF MASTER OF EDUCATION**

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## Letter of Certificate

This is to certify that Mr. Jeeban Acharya a student of academic year 068/069 with campus Roll No.3176, exam Roll No. 281611(2069) and T.U. Registration No. 9-2-240-284-2007, thesis no. 1155, has completed his thesis under my supervision during the period prescribed by the rules and regulation of Tribhuvan university, Nepal. The thesis entitled " **Attitude of Teachers and Students towards Letter Grading System**" has been prepared based on the result of his investigation conducted during the period June 2015 to December 2016 under the Department of Mathematics Education, University Campus, Tribhuvan University, Kirtipur ,Kathmandu. I recommend and forward for evaluation as the partial requirements to award the Degree of Master of Education.

.....  
(Mr. Abatar Subedi)

For Head/Supervisor

Date .....

**Letter of Approval**

**A Thesis**

**By**

**Jeeban Acharya**

**Entitled**

**Attitude of Teachers and Students towards Letter Grading System** has been approved in partial fulfillment of the requirements for the Degree of Master of Education

**Committee for Viva-voce**

**Signature**

- |    |  |       |
|----|--|-------|
| 1. | Mr. Abatar Subedi<br>(Chairman)            | ..... |
| 2. | Prof. Dr. Hari Prasad Upadhyay<br>(Member) | ..... |

Date.....

## DEDICATION

Dedicated

To

*My respected parents, Rudra Prasad Acharya and Laxmi Acharya who have devoted their entire life to uplift and enlighten my life.*

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.....

Jeeban Acharya

## ABSTRACT

This is a survey research related to find the attitudes of teachers and students towards letter grading system. This is quantitative type research. The sample of this study consisted of 30 mathematics teachers and 180 students selected randomly from the six public school of Kathmandu district. A set of questionnaire entitled "likert Attitude scale" was the tools for collecting data. The questionnaire consists of 20 statements for teachers and 30 statements for students. These questionnaires consist different aspects of letter grading such as student's attitudes towards grading system, educational management, implementations of letter grading system and students output in letter grading system also daily behavioral uses, uses for higher study, difficulty of learning, the place of mathematics in society. The collected data were organized, tabulated, analyzed and interpreted by using the statistical tools such as percentage, mean, standard deviation,  $\chi^2$ -test and t-test. The  $\chi^2$ -test was employed to find out the attitude of students and t-test was used to compare the attitude of teachers and students at 0.05 level of significance.

The result of this study indicated that the secondary level students and teachers had positive attitude towards letter grading system. But there was significance difference between mathematics teachers and student's attitude towards letter grading system. Mean attitude score of students is significantly different that of mathematics teachers. Attitude of mathematics teachers is better than attitude of students towards letter grading system.

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## Chapter - I

### INTRODUCTION

#### Background of the Study

Education is a means for the development of an individual to adjust in society. It is essential to flourish the potentiality and prospects of personality development in every pupil. Education regards as society's most important mechanism for ensuring individual's development. Education as we understand it here is a process of living truth and possibility of encouraging and giving time to discovery.

Dewey, (1916) put it, as social process of living and not a preparation for future living. Education is the basic process of daily behavior like as language. Mathematics is the organization of fact, concept, theory and relations. Mathematics is the part of coin with daily life. According to history area of mathematics is going to continuously increase and change its nature and structure according to need of sociology. Actually mathematics is the study of quantity, structure, space and change. It developed with abstraction and logical reasoning from counting, calculation, measurement and study of shape and motion of the physical object. A body of related course concerned with knowledge of measurement, properties and related quantities including theoretical or applied studies of arithmetic and calculus. Mathematics is the mirror of civilization and it is directly associated with the society and human life.

According to oxford Dictionary "mathematics is the science of number and space." Modern mathematics has been making a great effort and progress to make mathematics more meaningful and lively. Formally mathematics education as a discipline got recognition from international congress of mathematics education (ICME, 1969) held at Lyons, Mathematics education is concerned with the development and implementation of appropriate mathematics curricula and with all

issues associated with the teaching and learning in keeping with the concept of lifelong learning. Mathematics described as logical, abstract and social nature according to its structure and use. A common man get on something very well without learning how to read and write but he can never pull on without learning how to count and calculate. The knowledge of mathematics fundamental process and the skill to use them are the preliminary requirement of a human being these days.

In context of Nepal the informal education system was started about “vedic period” from 1200 B.C to 1000B.C. four vedhas Riga,yjur,Sama,and Athare which were composed by sages of Hindu were taught during the period ‘Gurukul’ was the education system of the Vedic era. During the vedic period, Ganita was the taught for mathematics, Jyotisa for astronomy, Kalpanasutra for different group of science and kshetra Ganita for geometry. Though Nepal had such strong education development in the past, it was not carried on due to political and different social hurdles.

According to historical records (1987),In 1990 B.C SLC exam has started in Nepal .During this period Basic education of vocational training was started in 1947.As time passed on the Curriculum and test book were being revised .Teacher were being trained and so many other attempts are being carried.

Grading is a powerful tool faculty use to communicate with their students, colleagues, and institution as well as external entities. Grading is a process by which teacher assesses students learning through classroom tests and assignment the context in which good teacher established that process.

Grading system is an exercise in professional judgment on the part of teachers. It involves the collection and evaluation of evidence on student achievement or performance over a specified period of time, such as academic semester or entire school year. Through this process various type of descriptive information and

measures of student performance are converted in to grades or marks that summarize student's accomplishment. A grading system is a primarily a method of communicating measurements of achievement. It involves the set of specialized symbols whose meanings ought to be clearly defined and uniformly understood by all concerned. Only to the degree that the grading symbols have the same meaning for which it is used. Although some educator distinguish between grades and marks most consider these term synonymous Both imply a set of symbol, word, or number that are used to designate different levels of achievement or performance .They might be letter grade such as A,B,C,D and F ,symbols such as (NA+),(NA-)n and descriptive words such as Exemplary , Satisfactory, and Need to improvement or Numerical such 4,3,2 and 1. This new grading system helps the students in two way first the system better reflect the capability of the students and as per their performance in their tenth grade direct them appropriate subject for grade11.

Grading in mathematics should also be uniform, consistent, accurate, meaningful, and fair and depict the actual mathematics achievement of students. In grading, there arise many problems such as: case of marginal grade, feeling of motivation and competition among students etc. Grade is mean to measure student's achievements and learning outcomes.

Evaluation is an integral process of any education system. It gives feedback to teacher and students also. Generally, result of the student is given through numbers. But in recent times, this system has been changed in different areas. The change of marking system into grading system is an important part of modern educational system. The government of Nepal introduced the new SLC grading system from 2072B.S.

According to new Cambridge Advance Learner's Dictionary-2003, "Attitude is a feeling opinion about something or someone or a way of behaving that is caused by this." Random House Webster's Collage Dictionary states the meaning of attitude is "manner, disposition or feeling." The world Book Dictionary(1996A.D) states the meaning of attitude is "A way of thinking, acting, or feeling, manner, or cause." Similarly, Encyclopedia Britannica online, Academic Edition on 27-5-2007 states "attitude is in social psychology, cognition often with some degree of aversion or attraction (emotional valance) that reflects the classification and evaluation of object and events. While attitudes logically are hypothetical constructs (i.e.they are inferred but not objectively observable), they are manifested in conscious experience, verbal report,overt behaviors and physiological indicators."

From the above presentations we can come to the following conclusions.

- Attitude is a feeling or an opinion of a person about something or someone.
- It is the way of behaving towards a situation or cause.
- It is a manner of a person how he\she respond with something or somebody.
- It is a mental ability of a person to evaluate an event to be attracted with or be averse from.
- The attitude cannot be observed objectively but it is clearly realized from the conscious experience,expression,open behavior and physiological indicators.

Therefore, teachers and student's attitude toward the SLC grading system is their opinion or feeling about the letter grading system. We can account the teachers and student's attitude toward the grading system from their level of knowledge,responding and ability to gain and classify towards the grading system.

## Statement of the Problem

SLC grading system is now introduced in Nepal. The government of Nepal introduced the new grading system from 2071 B.S for TSLC and from 2072 all over the nation for SLC. Every year most of the students who appeared in SLC examination become fail. There are many causes of fail in SLC Among them one of the main causes is failure in mathematics. Because of the failure in examination, some students also commit suicide, get frustrated, become druggists, grasp negative path in life. The failure rate of students in mathematics is higher than other subject in SLC examination. Most of the students think that mathematics is difficult subject; it is only for bright and talented students. The public image towards mathematics is, it is hard subject, only for talented and boys, girls cannot do well in mathematics.

Now professors, educationists, policy makers, students, parents and teachers are arguing that the current pass\fail evaluation system is not appropriate to reporting students' competency level. To bring reformed in the evaluating system, a comprehensive technique which is in preference and is being introducing is letter grading system.

The questions are to be selected from the course content of grade $\bar{x}$ . So the student's achievement on course of grade $\bar{x}$  could not be included to find out the depth of the study. In this new grading system SLC students would not be carried either pass or fail status certificate and hardly any students will fail grade $\bar{x}$  board exam. And this is newly introduced grading system teachers and students have confused and unknown how to teach and read in the student. Teachers are the most effective agent to impart the education to the students. They are to be familiar with the objective of the curriculum, the technique, of teaching and evaluation, carry the remedial and better measures to raise the quality of education.

In this reference the present study will deal with the following problem,

- What are the attitudes of mathematics teachers towards letter grading system in SLC?
- What are the attitudes of students towards letter grading system in SLC?
- Does their attitudes difference among mathematics teachers and students towards letter grading system?

### **Objective of the study**

The objectives of the study are as follows,

- To find the attitude of mathematics teachers towards letter grading system in SLC.
- To find the attitude of students towards letter grading system in SLC.
- To compare the attitudes of mathematics teachers and students towards letter grading system in SLC.

### **Signification of the study**

The study inquired the different level of feeling of teachers and students about SLC grading system of Kathmandu district. This is possible only when the attitude of teachers and students towards SLC grading system is favorable. It is hope that this would help the whole country in its policy formation and implementation.

In short, the significance of the study was:

- This study would be helpful to investigate mathematics teachers and student's attitudes towards letter grading system in S.L.C.
- It would help to improve the teaching learning situation in the content of attitudes towards letter grading system in S.L.C.
- It accounts the merits of new letter grading system.

- The finding of the study would be represents the whole nation so it could help the whole country in its policy formation and implementation.
- This study becomes beneficial for secondary schools to improve student's mathematics achievement by motivating students to learn mathematics.

### **Research hypothesis**

- There is positive attitude of students towards SLC grading system.
- There is positive attitude of teachers towards SLC grading system.

### **Delimitations of the study**

Delimitations are those characteristics that limit the scope and define the boundaries of study. This is the survey type research about letter grading system to explore the difference attitudes among different stakeholders and student's motivation to learning activities. Therefore, this study is intended to limit itself to letter grading system in exploring difference attitudes among mathematics teachers and students. Due to the certain, time, expenses and other related factors the researcher cannot overcome the entire field,

Its limitations are as follows:

- The study was limited to Kathmandu district.
- It was based on the sample method there couldn't be 100% accuracy that we expect in census method.
- The study would be limited to the information of mathematics teacher and students not of other like parents.
- This study was limited to only six schools.
- This study was concerned and limited to only mathematics achievement and student's motivations to learn mathematics of secondary level.

**Definition of the terms Attitude:** An attitude is a complex affair, which cannot be wholly described by any single numerical index. The concept of attitude is used denote person's inclination feeling, ideas, fear and conviction about letter grading system. In this study the totality of the following variable would be considered as attitude of letter grading system, implementation of letter grading system, educational management and output of the students.

**Attitude Scale:** Information from those attempts to measure the belief or attitudes of an individual is known as attitude scale according to Best and Kahn. Attitude scale is an inquiry form or scale used to obtain the measure of attitude of an individual towards some phenomenon, in this study attitude scale was used by researcher to obtain the measure of attitude of students, towards letter grading system.

**Assessments:** The act of making a judgment about something or the act of assessing something. Assessment involves the interpretation of measurement data, usually in terms of whether or not an intended level of achievement has been achieved.

**Letter Grading System:** A measurement and evaluation system which was implemented from 2071 B.S in TSLC and all over the nation from 2072B.S. In this system nobody fails and appropriate grade (letter) is given instead of pass fail, percentage, division.

**Motivation:** Inspiration, psychological uplift on students in learning, classroom participation etc.

**TSLC:** School leaving Certificate examination in technical and vocational education.

**Attitudes Differences:** The measure of attitude differences for this study means attitudes differences among mathematics teachers and students towards letter grading system.

**Effect of Letter Grading System:** This means the change that results or the feeling that occurs among students due to the implementation of letter grading system.

## **Chapter - II**

### **REVIEW OF RELATED LITERATURES**

Scientific research must be based on past knowledge. The previous studies cannot be ignored because they provide the foundation of the present study. During the last few decades there are many studies and published article dealing with teacher attitudes towards teaching problem, pupil achievement in different class level and different class size etc. The review of related literature is an important and essential for guideline of research planning. It helps to give better idea of research and helps to reach hypothetically nearly about the conclusion; some of the related literatures of this study are listed below.

Tiwari (1984) in his master thesis entitled “ A study of boy and girls attitude towards mathematics” and concluded the seven secondary school students both boys and girls held positive views that mathematics could be learned by one, boy seemed to exhibit higher percentage in support of this view. The correlation between students’ attitudes towards mathematics and their achievement in this subject were found to be significant. It indicates that they are closely related to each other.

Similarly, Pandit (1999), On his master thesis “A study of attitude of secondary level students and teachers towards Geometry” conclude that the students studying in secondary level had positive attitude towards geometry but the teacher have negative attitudes towards the subject. The secondary level boy had better attitude then those of girl's attitudes towards geometry. The mean attitudes score of students towards geometry was significantly greater than that of their teachers.

Moreover, George, etal (2001) presented a paper at the annual meeting of American Educational Research Association (AERA) emitted "High School Mathematics Teachers: Grading Practice and Pupil Control Ideology". In this research

researcher survey data gathered from 230 respondents from a random sample of 500 Ohio public school teachers explores the association between teacher's practices of assigning grades based on non-achievement grading factor and teachers public control orientation. Survey data, validated by interviews with teachers, suggest that the context of the classroom contribution. Significant predictors are the proportion of at-risk students in the teachers' school District and the proportion of upper level mathematics courses. When variables representing teachers mean class size replaces school size in the regression equation that provides for block entry of predictor variable class size.

The finding of this study indicates that the class size, percentage of at-risk students in the district, and the percentage of the teacher's assignment to upper level mathematics course account for approximately 20% of the variance in teachers' practices of assigning grades based on factors other than tests and quizzes. Most of the teachers who directly answer free response question on the use of grades to control students (53%) believe that final grades are not used to control student's behaviors. Some teacher (36%) believe that they might be used in this way. 8 percent of teacher of the teachers surveyed believe grades are definitely used to control students. The assignment of grades based on higher proportions of non achievement grading factor is associated with small classes and teachers who teach fewer upper level classes. For this study, the teachers' pupil control orientation provided a marginally reliable measure of pupil control.

From the above reviews, it is conclude that the correlation between student's attitudes towards mathematics and their achievement in this subject were found to be significant. Likewise, attitudes of secondary level mathematics teachers and student towards geometry are found that teacher's attitudes were negative, Similarly, Grading

practices and pupil controls ideology. Found that the teachers and pupil control orientation provided a marginally reliable measure of pupil control.

Likewise, Michaekudes & kirshner (2005) conducted their research entitled "Graduate students attitudes towards grading system". This study examined graduate students attitudes towards letter and pass\fail grading system in the law school and the school of education in a selective university in the United States. 54 students completed a questionnaire on goal-orientation amount of effort and stress in each of the two grading environments. Students reported higher orientation towards ability comparison and higher level of effort and stress in letter-graded class.

Similarly, Aryal (2007) conducted a study entitled "A study on teacher attitude towards optional mathematics curriculum of secondary level". On the basis of attitudes towards optional mathematics curriculum about appropriateness, usefulness and sufficiency. From his study some statistical significant conclusion was drawn for the implementation of the optional mathematics curriculum. There was a negative attitude of teachers towards optional mathematics curriculum of secondary level. At the present context it was neither useful nor appropriate but it has strong base for higher level Education.

Likewise, Farooq and ullah (2008) concluded that success in mathematics depends upon attitude towards mathematics. It is also influences the participation rate of learners. This study was based on a survey of high school students about their attitudes towards mathematics. Students of both the gender constitute the population of this study. Sample of the study was 685 students (male 379 and female 306) of tenth grade selected conveniently from 10 private and public sector school. A questionnaire was used to examine the attitudes of male and female students towards

mathematics at secondary school level. Descriptive statistic and t-test with  $P < 0.05$  level of significance were used for data analysis.

In addition, Joshi (2010), Conducted a research entitled “A study on attitude of girls towards optional mathematics at secondary level” from the statistical analysis of collected data and interview with girl's students yielded the following result as the major finding of the study. The secondary level girl students had positive attitude toward optional mathematics. Although the mean attitude score of urban girls is greater than that of rural girl's students but there is virtually no significance difference between attitudes of urban and rural girls towards. Due the hard work at home less number of girls takes optional mathematics in comparison with boy's students.

From the above reviews, it is concluded that Graduates students reported that higher level of effort and stress in letter grading system similarly teacher's attitudes towards optional mathematics is found that the optional mathematics is nether useful nor appropriate but it has strong base for higher level of Education, moreover in urban areas due the hard work at home less number of girl's students takes optional mathematics in comparison with boy's students.

Likewise, Khatiwada (2010) In this study "Attitude of secondary level students and teachers towards probability". This study was aimed to find out the teachers and students attitude of secondary level towards probability. It was also aimed to compare the attitude of boys and girl's students about the attitude of probability topic. The sample of this study included 25 teachers and 200 students of Ilam district. Two sets of opinonnaire were developed as the tools for collecting data for the study, such as attitude scale of teachers and attitude scale of students. The collected data were tabulated than analyzed by using simple statistical method t-test, mean and standard deviation to find out the attitude of teachers and students towards

probability and comparison the attitude between them. The result of the study indicated that the secondary level teachers had positive attitude towards probability. Similarly, the secondary level boys and girls had positive attitude towards probability. The mean attitude score of boys is significantly better than that of teachers. The mean attitude score of girls is significantly better than that of teachers needed raining teaching probability in secondary level.

Moreover, Panta (2010), conducted a research entitled “A study on Attitude of secondary level students and teacher towards geometric transformation” indicates that secondary level students had positive attitude on that topic. The secondary level boys and girls had similar attitude towards geometric transformation. The mean attitude score of boys are significantly better than that of teacher towards geometric transformation and there was no gender different in attitude among students towards geometric transformation.

Likewise, Dhakal (2011), in this study, " Attitude of secondary level of students towards mathematics." This study attempts to assess the attitude of secondary level students towards mathematics. It was also aimed to compare the attitude of boys and girls towards mathematics. A set of questionnaire entitled "Likert Attitude scale" was the tool for collecting data. The questionnaire consists of 40 statements which are distributed among 70 boys and 70 girls. The data were analyzed using descriptive as well as inferential statistics the chi-square test was employed to find out the attitude of students and t-test was used to compare the attitude of boys and girls. The result of this study indicated that there was positive attitude of students towards mathematics. Girls and boys both had positive towards mathematics. Similarly, there was no vast difference between the attitude of boys and girls towards mathematics.

From the above reviews, concluded there is not vast difference between the attitude of boy and girl's students towards mathematics and secondary level girls and boys had positive attitudes towards probability, moreover, there was no gender different in attitudes among students towards geometric transformation.

Kanaack, & Zawiocki (2012), three teacher researchers conducted an action research project for the completion of their degree of master of art in teaching and leadership from saint Xavier University entitled "Using standards based grading to address student's strength and weakness". In this research include 138 students at sixth and seventh grade level at site A and 20 kindergarteners at site B for total of 158 students and 95 parents completing surveys. Teacher researcher conducted both parents and students survey in addition to a teacher survey and interview. Through this tool the teacher researcher found that students and parents alike agreed that they did not always understand why students received certain grades and were not able to identify their student strength and weakness. Parents were not confident in the teacher's abilities to explain grades. Teachers implemented a new way of grading that did not allow outside factors to affect grades. In this research researchers found that 84% (n=114) of students agreed with the fairness of the grades that were assigned to them.

In addition, Saini (2013), in this study, " Attitude of higher secondary level students towards mathematics." This study focuses on the attitude of the boys and girls higher secondary level students towards mathematics. This is survey type of study that attempts to describe the attitude level of students in basic mathematics. Four higher secondary schools of nawalparasi district were randomly selected. A set of questionnaire entitled "Likert Attitude Scale" was the tool for collecting data. The questionnaire consists of 30 statements, which was twenty-five positive statements

and five were negative statements. These statements were distributed among 42 boy's students and 7 girl's students. The data were analyzed using descriptive as well as inferential statistics the chi-square test was employed to find out the attitude of students and t-test was used to compare the attitude of boys and girls. The result of this study indicated that the attitude of higher secondary level students in basic mathematics had a positive attitude. Boys and girl's attitude towards mathematics was significant difference.

In addition, Gnawali (2014), in this study, "Attitude of teachers and students towards the utility of contents of optional mathematics." This study attempts to assess the views of teachers and students towards the content of secondary level optional mathematics. It also aimed to find out the views of teachers and students towards the utility of optional mathematics contents. The questionnaire consists of all contents of optional mathematics. A total of 50 mathematics teacher and 100 students of optional mathematics from different collage of Rupandehi district. From the collected data was organized, tabulated, analyzed and interpreted by using the statistical tools such as percentage, mean, standard deviation, chi-square test and t-test. His major findings related to research were, both the teachers and students have positive attitude towards the content of optional mathematics. All the teacher and students agreed that all the contents are very useful for higher study by providing basic concepts. There is not significant different in the opinion of the teachers and students about the utility of content through each respect and respondents also suggested that the basic concept of complex number, derivatives, integral calculus must be added in this course to make it more effective.

Moreover, Sharma (2014), on this master thesis entitled "Attitude of secondary level students towards mathematics". This is a survey study that studied

attitude of secondary level students towards mathematics by SES. The attitudes studied were confidence in learning mathematics, usefulness of mathematics, perception of students towards their mathematics, teacher and stereotype of mathematics as a male domain. In the survey there were 12 statements for each attitude, 6 positively and 6 negatively. There were a total of 200 students; among them 93 were females and 107 males. From the statistical analysis of collected data and interview with yielded the result of this study the secondary level students had positive attitude toward mathematics. The attitude of low SES lowered than there of high SES students negligibly. There was no relationship between SES and gender of students to determine attitude toward mathematics.

Likewise, Parajuli (2015), on this master thesis "attitude of higher secondary management students towards business mathematics". This study focuses on the attitude of the boys and girls higher secondary level students towards business mathematics. This is survey type study that attempts to describe the attitude level of student's business mathematics. Four 10+2 schools of Kathmandu district were randomly selected. The questionnaire consists of 30 statements, which these statements were distributed among 100 students, 60 of them were boys and 40 were girls. And also unstructured interviews were taken with mathematics teacher from respective sample schools concerning towards there factors, related literature, theories, mathematics tools which related to this study have been used to interpret and made reflection over the analyzed information t-test and chi-square value were used to interpret the result. This study shows that the attitude of higher secondary business mathematics students had a positive attitude towards mathematics. Also boys and girl's attitude towards mathematics is significant difference.

Similarly, Patrick W. (2015) prepared a paper work at department of economic; St.Michael's college Colchester, Vermont, USA entitled "Does competition among school encourage grade inflation?" This paper considers whether high school in competitive environment use grade inflations to attract and retain families. In this paper two measure of grade inflation are used: the cutoff used by each school to assign a letter grading system to percent score, and high school GPA after controlling for test score, a rich set of students and school characteristics and collage GPA. Two measure of competition are used. There are two types of school, in both school increased competition significantly affects grade system. A one standard deviation increase in completion results in about a 0.12 to 0.18 standard deviation fall in the grade cutoff a both schools competition does not significantly affect the actual assigned grades as measured by GPA.

Above mentioned studies reported that there are some studies about the attitudes of mathematics teachers and students towards the mathematics and comparative study of male and female student's attitudes towards the mathematics. Also some studies will be conduct to find mathematics teacher and students attitudes towards the difference discipline of content of mathematics. So the researcher decides to conduct the study about this topic.

### **Conceptual Framework of the Study**

A conceptual framework is presented either in graphical or narrative forms, which depicts the relation between the variables, brings clarity, focus to see and organize the research questions more clearly. From the above review of literature and the theoretical approach, the researcher has come to the point that the topic of current research attitude of public school students and teacher at secondary level. The above-mentioned literatures have helped the researcher to save the research and draw

Meaningful conclusion. The following conceptual framework was constructed with the help of above mentioned literature review.

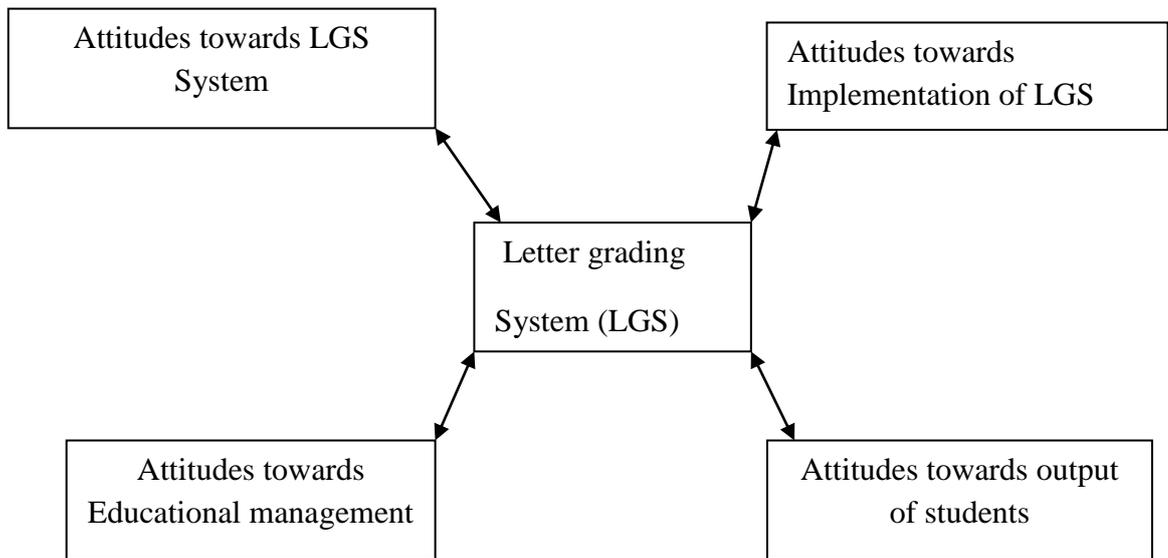


Figure: Conceptual Framework

The above diagram relates the students and teacher's attitudes to the four disciplines on the basis of provision and assessment, the administrative, academic and professional support. There are attitudes towards letter grading system among different stakeholders such as mathematics teachers and students. Different types of students have different attitudes towards overall letter grading system and attitudes towards implementation of letter grading system and motivational level to mathematics learning and achievement. Also here attitudes of mathematics teachers and students towards educational management and attitudes towards output of student's achievement.

In this study, the researcher intended to find out the attitude of secondary level students and mathematics teachers towards grading system based on research reports in the field of attitude. Researcher used questionnaire to investigate respondents' attitude towards letter grading system in SLC. For the questionnaire, 30 statements were prepared for students and 20-statement were prepared for mathematics teachers

based on the above main theme of conceptual framework and adapted from thesis on "Graduate student's attitudes towards grading system" by Michalis Michaelides and Kirshher (2005) and the help of experts. The selected statements that reflect the issue in the questions were given to the respondents to indicate their degree of agreement/disagreement by selecting the appropriate response category or a number on a numeral scale.

## **Chapter- III**

### **METHODS AND PROCEDURES**

This chapter presents the procedure of study, which carried out to achieve the objectives of the study. This chapter contains the method of sampling, the instrument use to collect data and the procedure used to analyze the data. This study presents the opinions of those teachers and students towards SLC grading system.

#### **Research Design**

The design of this study is survey type. Since the research question and the research issues corresponds to survey. The overall methodology used corresponds to the survey research. It is the most commonly used method of investigation ranging from large-scale investigation to a small scale study or even a small classroom study. Therefore, techniques are applied to analyze the data. The data are collect through the primary sources. All the information from primary sources are analyzed and interpreted on the following procedure to conduct this study.

#### **Sources of Data**

The primary source of the data obtains by questionnaire from the teacher and students. Secondary source of data the researcher collected the related thesis, article, journal, news\book, and so no from the subject exports, teachers, CDC(Curriculum Development Centre) and so on.

#### **Population of the Study**

Survey research demands a large number of populations. The population of the study is teachers and students of public school in Kathmandu district. Generally, census survey is not feasible for social and educational research because it is difficult to collect data from each member of the population. So, the required sample

was selected according to the purpose of the study and using sample selection techniques.

### **Sample of the Study**

The sample was selected using proportionate stratified random sampling method. The researcher took the sample which meets all the characters of population. So, the researcher made the list of secondary public school at Kathmandu district. From the list there are six secondary school selected by the method of random sampling. It included Mangal Higher Secondary School at Kirtipur, in this school there were 30 students and 5 mathematics teachers similarly, Janasewa Higher Secondary School at Kirtipur, in this school there were 30 students and 5 mathematics teachers Moreover, Gyanodaya Higher Secondary School at Kalanki, in this school there were 50 students and 9 mathematics teachers Likewise, Janaprabhat Secondary School at Kalimati, in this school there were 30 student and 4 mathematics teachers and Parbhat Secondary School at Asan, in this school there were 20 students and 3 mathematics teachers In addition, Kirtipur ma.vi,kirtipur there are 20 students 4 mathematics teachers. A total Sample of the study were 180 students and 30 mathematics teachers.

### **Tools for Data Collection**

Every study needs to collect data. The aim of the survey was to investigate student's perceptions about letter grading system. Therefore, questionnaire was the major tool for the collection of data in this research. Data is the foundation of any research. Therefore, collection of reliable data is very essential part of all types of research. The researcher visited the sample school to collect data by questionnaire for letter grading system. For the questionnaire, 30 statements were prepared for students and 20-statement were prepared for mathematics teachers based on the above main

theme of conceptual framework and adapted from thesis on "Graduate student's attitudes towards grading system" by Michalis Michaelides and Kirshher (2005) and the help of experts. It was developed and constituted under the guidance of supervisor. Which consist of 30 statements has five options strongly agree, agree undecided, disagree and strongly disagree for each item. These questionnaires consists different aspects of letter grading such as students attitudes towards grading system, educational management, implementations of letter grading system and students output in letter grading system also daily behavioral uses, uses for higher study, difficulty of learning, the place of mathematics in society. Some questions related to gender and some were related to view towards the subject. Scale for scoring each item of the questionnaire used the Likert five point scales. The values of five strongly agree, four for agree, three for undecided, two for disagree and one for strongly disagree for each item. Questionnaires are the major tool for the collection of data in this research. The questionnaire included the attitudes related to letter grading system in SLC. The collection of data for research was done with the help of sets of questionnaire about the attitude of secondary level students and teacher towards letter grading system. Questionnaires are developed and constituted under the guidance of supervisor.

### **Procedure of Data Collection**

The researcher visits the sample school with a structural questionnaire for the data collection. The researcher took permission of head teacher and mathematics teacher in the previous day before the questionnaire for students. By the used of questionnaire the researcher took the attitude of all the students of grade X during their regular mathematics period in the presence of their mathematics teachers. For the response of students, the researcher distributed questionnaire the students and

mathematics teachers. After getting response of all the students and teachers, the questionnaire was taken back with thanks. Then collected data was tabulated. Each statement was followed through each aspect by the rank responses in five point likert-scales. In the questionnaire consists of all contain. Some questions relate to views towards the subject and some opened ended questions are also asked. Each content is follows through each aspect by the rank responses in five point likert-scale. The collected data were tabulated by using the following five point liket scale for statistical analysis.

Meaning of rating	Ratings
Strongly agree	5
Agree	4
Undecided	3
Disagree	2
Strongly disagree	1

The mean weight age of rating through each aspect is calculated. The numerical value of mean weight age ranges from 5 for a total utility of the content from each of respondent to 1 for strongly disagrees in the rating scale through each scale and for negative statement the numerical value of mean weight age ranges from 5 for strongly disagree and 1 for strongly agree.

### **Reliability and Validity of Tools**

For the reliability of the instruments, a pilot study was conducted to assess the reliability of this tools or instruments. The pilot study was carried out of twenty students, which were not included in the study. The obtained data were calculated using by split-half method, then reliability coefficient was found 0.84.

For the validation of the instruments, the researcher consulted with the thesis supervisor. The research tools used in this study were questionnaire. It also prepared by through the consultation with the expert. The statement was fixed for the final study. The statement was related to attitude towards letter grading system. For the researcher consulted with the thesis supervisor.

### **Data analysis Procedure**

To analyze the gathered information use the  $\chi^2$ - test. The  $\chi^2$ - value would be use to assess whether the distribution of response categories are significantly different from their theoretical distribution or not. For this,  $\chi^2$ - test is employ separately for teachers and students. Furthermore, the weighted mean of each statement regarding the attitudes of mathematics teachers and students towards letter grading system was measured. By the help of t-test researcher, compare the attitude of mathematics teachers and students at 0.05 level of significance.

## Chapter – IV

### ANALYSIS AND INTERPRETATION OF DATA

This is a survey research related to find the mathematics teachers and students attitude towards letter grading system at secondary level. Quantitative method was used to measure the attitude of mathematics teachers and students. This chapter presents the result of statistical analysis of collective data, which were collected from the students of secondary level at Kathmandu district. From the list there are six secondary school selected by the method of random sampling. A total 180 students of class ten and 30 mathematics teachers were the samples for this study. The questionnaire consists 30 statements for students and 20 statements for teacher which was developed and constituted under the guidance of supervisor and adapted by international thesis. Questionnaire was the major tools for the collection of data in this research. Scale for scoring each item of the questionnaire used the likert five point scales. This part deals with statistical analysis and interpretation of the data. For Analyzing the data, mean, percentage, standard deviation, chi-square test and t-test were used. The collected data were analyzed.

#### **Students Attitude towards letter Grading System**

There were ten statements related to the letter grading system. The following table consist the student's attitude towards letter grading system and it corresponding  $\chi^2$ - value of each statement related to letter grading system in SLC. In this section most of the students have positive attitudes towards letter grading system. Question number twenty-two "All subjects are equally important in letter grading system" All of the student are strongly agreed for this statement and they have positive attitudes towards letter grading system.

Q.N	Statement	SA	A	U	DA	SDA	$\chi^2$ - value	Result
1.	I understand about letter grading system.	12	113	35	12	8	218.5	S
4.	Letter grading system is better than percentage and numerical system.	38	44	30	42	21	10.13	S
5.	Letter grading system is essential for S.L.C level.	38	62	38	21	14		S
8.	Letter grading system is favorable for weak students.	83	67	12	11	7	144.7 7	S
15.	I prefer letter-grading system to the numbering system in higher education.	29	58	29	20	25	26.63	S
17.	The letter grading system reduced the subjective biasness in evaluation.	53	58	47	12	9	61.08	S
22.	All subjects are equally important in letter grading system.	100	56	16	11	9	131.3 8	S
24.	Letter grading system not favors for talent students.	56	38	93	17	28	113.2 7	S
29.	None of the students fail in letter grading system.	63	43	31	32	24	26.75	S
30.	Due to the frequent examinations it creates Anxiety among the students.	67	53	28	15	19	56.77	S

Statement “I understand about letter grading system” is significant with the chi square value 218.5 at 0.05 level of significance. A total of 60% of students are agreed and 19% of students are undecided and 21% of students are disagree about this statement. It shows that most of the students are understand about letter grading system and positive for this statement.

Statement “Letter grading system is better than percentage and numerical system” is significant with the chi square value 10.13 at 0.05 level of significance. A total of 45% of students are agreed and 16% are undecided and 41% of students are disagree about this statement. It shows that most of the students are positive for this statement.

Statement “Letter grading system is essential for S.L.C level” is significant with the chi square value 38.69 at 0.05 level of significance. A total of 55% of students agreed and 21% of students are undecided and 24% of students are disagree about this statement. It shows that most of the students are positive for this statement.

Statement “Letter grading system is favorable for weak students” is significant with the chi square value 144.77 at 0.05 level of significance. A total of 83% of students are agreed about this statement. It shows that majority of students are positive of this statement.

Statement “I prefer letter grading system to the numbering system in higher education” is significant with the chi square value 26.63 at 0.05 level of significance. A total of 47% of students are agreed and 16% of students are undecided and 37% students are disagree about this statement. It shows that majority of students are positive of this statement.

Statement “All subject are equally important in letter grading system” is significant with the chi square value 131.38 at 0.05 level of significance. A total of

86% of students are agree about this statement. It means most of the students are positive for this statement.

Statement “Letter grading system is not favor for talent students” is significant with the chi square value 113.27 at 0.05 level of significance. A total of 25% of students are disagreed and 51% of students are undecided about this statement. It indicates that majority of students are not favor of this statement.

Statement “Non of the students are fail in letter grading system.” is significant with the chi square value 26.75at 0.05 level of significance. A total of 59% of students agreed and 17% of students are undecided about this statement. It means that most of the students are positive for this statement

Statement “Due to the frequent examination it creates anxiety among the students” is significant with the chi square value 56.77 at 0.05 level of significance. A total of 66% of students are agreed and 15 % of students are undecided about this statement. It indicates that most of the students are positive for this statement.

So we concluded that most of the students are positive attitudes towards letter grading system in SLC level and above table are show the attitudes of system and students say it is essential for secondary level.

### **Attitudes of students towards the implementation of letter grading system**

There were five statements related to the student's attitudes towards the implementation of letter grading system and each statement and their corresponding  $\chi^2$ - value and result are in table below. Most of the students have positive attitudes towards implementation of letter grading in SLC level but students are need learning material in letter grading some of the students say that present curriculum is not effective for letter grading system in SLC.

Q.N	Statement	SA	A	U	DA	SDA	$\chi^2$ - value	Result
7.	We need learning material and equipment in letter grading system.	58	65	47	6	2	97.27	S
10.	Letter grading system helps to choice of field for further study.	56	61	43	13	7	67.88	S
21.	In letter grading system, the assessment and overall evaluation is transparent.	29	34	51	21	12	29.97	S
26.	Special privileges are given to students who are most accomplished.	36	50	50	33	15	23.38	S
28.	Present curriculum is effective for letter grading system.	34	51	62	20	14	45.69	S

Statement “We need learning material and equipment in letter grading system” is significant with the chi square value 97.27 at 0.05 level of significance. A total of 68% of students are agreed about this statement. It shows that majority of students are positive of this statement.

Statement “Letter grading system helps to choice of field for further study.” is significant with the chi square value 67.88 at 0.5 level of significance. A total of 65% of students are agreed and 23% of students are undecided and 11% of students are disagree about this statement. It shows that majority of students are positive for this statement.

Statement “In letter grading system, the assessment and over all evaluation is transparent” is significant with the chi square value 29.97 at 0.05 level of significance. A total of 35% of students agreed and 28% of students are undecided and 37% students are disagreeing about this statement. It means that most of the students are not favor for this statement.

Statement “Special privileges are given to students who are most accomplished” is significant with the chi square value 23.38 at level of significance. A total of 47% of students are agreed and 27% of students are undecided about this statement. It shows that majority of students are positive for this statement.

Statement “Present curriculum is effective for letter grading system” is significant with the chi square value 45.69 at 0.05 level of significance. A total of 47% of students are agreed about this statement. It shows that majority of students are favor of this statement.

### **Attitudes of students towards the education management in letter grading system**

There were eight statements related to the attitudes of students towards educational management in letter grading system. The following table consist the student's attitude of the students towards educational management in letter grading system and it corresponding  $\chi^2$ - value of each statement related to letter grading system. In this section most of the students have positive attitudes towards all of the statement but statement number "13" Practices of letter grading system in internal examination of school are not applied in our school and teacher are irresponsible for this statement. All students feel that the environment of classroom is more competitive in letter grading system.

<b>Q.N</b>	<b>Statement</b>	<b>SA</b>	<b>A</b>	<b>U</b>	<b>DA</b>	<b>SDA</b>	<b><math>\chi^2</math>- value</b>	<b>Result</b>
3.	Teaching learning activities are more effective in letter grading system.	37	56	52	52	12	41.36	S
6.	Do you fell the environment of classroom is more competitive.	35	78	23	23	12	74.41	S
9.	Classroom is effective in letter grading system.	27	66	36	25	13	45.30	S
11.	Letter grading system is motivated to students for more practices.	53	59	32	19	16	42.30	S
12.	Impact of letter grading system in mathematics class is more effectiveness.	52	46	33	20	24	21.25	S
13.	Practices of letter grading system in internal examination of school.	51	46	31	20	35	16.86	S
18.	Students are made examination orientated in letter grading system then numbering system.	37	66	45	18	14	49.72	S
20.	Ratio of students and infrastructure in the class room are appropriate.	50	46	34	21	29	15.94	S

Statement “Teaching learning activates are more effective in letter grading system” is significant with the chi square value 41.34 at 0.05 level of significance. A total of 51% of students are agreed and 28% of students are undecided and 21% of students are disagree about this statement. It means that most of students are positive for this statement.

Statement “Do you fell the environment of classroom is more competitive” is significant with the chi square value 74.41 at 0.05 level of significance. A total of 62% of students are agreed and 21 % of students are undecided and 17% students are disagree about this statement. It indicates that most of students are positive for this statement.

Statement “Classroom is effective in letter grading system” is significant with the chi square value 45.30 at 0.05 level of significance. A total of 51% of students are agreed and 36% of students are undecided about this statement. It shows that most of the students are positive for this statement.

Statement “letter grading system is motivated to students for more practices” is significant with the chi square value 42.3 at 0.05 level of significance. A total of 62% of students are agreed and 17% of students are undecided and 20% of students are disagree about this statement. It means that most of students are positive for this statement.

Statement “impact of letter grading system in mathematics class is more effectiveness” is significant with the chi square value 21.25 at 0.05 level of significance. A total of 54% of students are agreed about this statement. It shows that majority of students are favor of this statement.

Statement “Practices of letter grading system in internal examination of school” is significant with the chi square value 16.86 at 0.05 level of significance. A total of

53% of students agreed and 17% of students are undecided and 30% of students are disagreed about this statement. It means that most of the students are positive for this statement.

Statement “Students are made examination oriented in letter grading system then numbering system” is significant with the chi square value 49.72 at level of significance. A total of 57% of students are agreed and 25% of students are undecided and 18% of students are disagreed about this statement. It shows that majority of students are positive for this statement.

Statement “Ratio of students and infrastructure in the class room are appropriate” is significant with the chi square value 15.94 at 0.05 level of significance. 53% of students are agreed about this statement. It shows that majority of students are favor of this statement.

### **Attitudes of students towards output in letter grading system**

There were seven statements related to the attitudes of students towards students output in letter grading system. The following table consist the student's attitude towards letter grading system and it corresponding  $\chi^2$ - value of each statement related to letter grading system. Statement number 19 "The average achievement of students on letter grading system is higher than numbering system" most of the students are agreeing about this statement and positive attitude for this statement and other six statement have positive attitudes.

Q.N	Statement	SA	A	U	DA	SDA	$\chi^2$ - value	Result
2.	Letter grading system helps to identify the ability of students.	42	70	26	15	27	50.38	S
14.	You are motivated in learning activities by letter grading system.	39	63	40	21	17	37.22	S
16.	The letter grading system is contributive to increase necessary competencies on students	25	44	63	28	16	38.27	S
19.	The average achievement of students on letter grading system is higher than numbering system.	95	49	19	9	8	151.44	S
23.	Letter grading system helps to improve student's achievement.	60	73	21	16	10	90.16	S
25	Letter grading system helps to increase overall Performance of students.	47	61	50	19	3	64.44	S
27.	Teachers provide regular feedback on students 'assignments, examination and reduce their negative wash back effect.	5	68	27	9	15	77.88	S

Statement “Letter grading system helps to identify the ability of students.” is significant with the chi square value 50.38 at level of significance. A total of 63% of students are agreed, 14% of students are undecided and 23% of students are disagreed about this statement. It shows that majority of students are positive for this statement. And majority of students are agreed this statement.

Statement “You are motivated in learning activities by letter grading system” is significant with the chi square value 37.22 at 0.05 level of significance. A total of 56% of students are agreed and 22 % of students are undecided and 21% of students are disagree about Statement It means that most of the students are positive for this statement.

Statement “The letter grading system is contributive to increase necessary competencies on students” is significant with the chi square value 38.27 at 0.05 level of significance. A total of 38% of students are agreed and 35% of students are undecided about this statement. It indicates that majority of students are favor of this statement.

Statement “The average achievement of students on letter grading system is higher than numbering system "is significant with the chi square value 151.44 at 0.05 level of significance. A total of 80%Of students are agreed about this statement. It means that most of students are positive for this statement.

Statement “letter grading system helps to improve student's achievement” is significant with the chi square value 90.16 at 0.05 level of significance. A total of 73% of students are agreed about this statement. It shows that majority of students are positive of this statement.

Statement “Letter grading system helps to increase overall performance of students” is significant with the chi square value 64.44 at 0.05 level of significance. A total of 60% of students are agreed and 27% of students are undecided about this statement. It shows that Most of the students are positive for this statement.

Statement “Teachers provide regular feedback on students assignment, examination and reduced their negative wash back effect” is significant with the chi square value 77.88 at 0.05 level of significance. A total of 70%Of students are agreed

and 15% of students are undecided about this statement. It means that most of students are positive for this statement.

### **Mathematics teachers Attitude towards letter Grading System**

There were seven statements related to the letter grading system. The following table consists the mathematics teacher's attitudes and it corresponding  $\chi^2$ -value of the questionnaire related to letter grading system.

<b>Q.N</b>	<b>Statement</b>	<b>SA</b>	<b>A</b>	<b>U</b>	<b>DA</b>	<b>SDA</b>	<b><math>\chi^2</math>- value</b>	<b>Result</b>
3.	Letter grading system respect to teacher.	6	16	8			17.33	S
8.	All subjects are equally important in letter grading system.	6	8	1	4	1	9.66	NS
12.	I understand about letter grading system.	7	19	4		1	29	S
14.	Letter grading system is better than percentage and numerical system.	7	16	5	2		20.16	S
15.	Letter grading system is essential for S.L.C level.	11	17		2		27	S
17.	Letter grading system is favorable for weak students.	19	6		2	2	30.83	S
20.	The letter grading system reduced the subjective biasness in evaluation.	11	15	2	2		23	S

Statement “Letter grading system respect to teacher” is significant with the chi square value 17.33 at 0.05 level of significance. A total of 73% of teachers are agreed and 27% of teachers are undecided and about this statement. It means that most of teachers are positive for this statement.

Statement “All subject are equally important in letter grading system” is not significant with the chi square value 9.66 at 0.05 level of significance. A total of 46% of teachers are agreed about this statement. It shows that majority of teachers are positive of this statement.

Statement “I understand about letter grading system” is significant with the chi square value 29 at 0.05 level of significance. A total of 86% of teachers are agreed about this statement. It shows that majority of teachers are favor of this statement.

Statement “Letter grading system is better than percentage and numerical system” is significant with the chi square value 20.16 at 0.05 level of significance. A total of 76% of teachers are agreed and 16 % of teachers are undecided and 8% of teachers are disagree about Statement It means that most of the teachers are positive for this statement.

Statement “Letter grading system is essential for S.L.C level” is significant with the chi square value 27 at 0.05 level of significance. A total of 93% of teachers are agrees about this statement. It shows that majority of teachers are positive of this statement.

Statement “Letter grading system is favorable for weak students” is significant with the chi square value 30.83 at 0.05 level of significance. A total of 83% of teachers are agreed about this statement. It shows that most of the teachers are positive for this statement.

Statement “The letter grading system reduced the subjective biasness in evaluation” is significant with the chi square value 23 at 0.05 level of significance. A total of 86% of teachers are agreed about this statement. It shows that majority of teachers are favor of this statement.

### Teacher's attitudes towards the implementation of letter grading system

There were seven statements related to the mathematics teacher's attitudes towards implementation of letter grading system. The following table consists the mathematics teacher's attitudes and it corresponding  $\chi^2$ - value of the questionnaire related to letter grading system.

Q.N	Statement	SA	A	U	DA	SDA	$\chi^2$ - value	Result
1.	Present curriculum is effective for letter grading system.		15	6	8	1	18.33	S
2.	The letter grading system tells that the teaching load to a teacher must be fixed.	6	10	11	2	1	73.75	S
4.	There are clear guidelines to implement letter grading system.	3	4	6	10	7	5	NS
7.	The course can be completed within the allocated time.	5	8	11	5	1	9.33	NS
10.	There are challenges to implement the letter grading system.	16	8	1	3	2	25.66	S
11.	In letter grading system, the assessment and overall evaluation is transparent.	13	10	3	1	3	18	S
16.	We need learning material and equipment in letter grading system.	11	14	5		1	15	S

Statement "Present curriculum is effective for letter grading system" is significant with the chi square value 18.33 at 0.05 level of significance. A total of 50% of teacher are agreed and 20% of teachers are undecided and 30% of teachers are

disagreeing about this statement. It shows that most of the teachers are positive for this statement.

Statement “The letter grading system tells that the teacher load must be fixed” is significant with the chi square value 73.5 at level of significance. A total of 53% of teachers are agreed, 36% of teachers are undecided and 10% of teachers are disagreed about this statement. It shows that majority of students are positive for this statement. And majority of teachers are agreed this statement.

Statement “There are clear guidelines to implement letter grading system” is not significant with the chi square value 5 at 0.05 level of significance. A total of 23% of teachers are agreed and 20% are undecided and 57% of students are disagree about this statement. It shows that most of the teachers are not positive for this statement.

Statement “The course can be completed within the allocated time” is not significant with the chi square value 9.33 at 0.05 level of significance. A total of 43% of teachers are agreed about this statement. It shows that majority of students are positive of this statement.

Statement “There are challenges to implement the letter grading system” is significant with the chi square value 25.66 at level of significance. A total of 80% of teachers are agreed about this statement. It shows that majority of teachers are positive for this statement.

Statement “In letter grading system, the assessment and overall evaluation is transparent” is significant with the chi square value 18 at 0.05 level of significance. A total of 76% of teachers are agreed and 10% of teachers are undecided and 14% of teachers are disagree about this statement. It means that most of teachers are positive for this statement.

Statement “We need learning material and equipment in letter grading system” is significant with the chi square value 15 at 0.05 level of significance. A total of 83% of teachers are agreed about this statement. It indicates that majority of teachers are favor of this statement.

### **Attitudes of teachers towards the educational management**

There were three statements related to the educational management in letter grading system. The following table consists the mathematics teacher's attitudes and it corresponding  $\chi^2$ - value of the questionnaire related to letter grading system.

<b>Q.N</b>	<b>Statement</b>	<b>SA</b>	<b>A</b>	<b>U</b>	<b>DA</b>	<b>SDA</b>	<b><math>\chi^2</math>- value</b>	<b>Result</b>
5.	It is easy to manage regular class in letter grading system.	3	12	7	6	2	10.33	S
6.	Effective teacher training program are needed for letter grading system.	21	9				39	S
18.	Our mathematics content is suitable for letter grading system.	5	11	3	10		12.66	S

Statement “It is easy to manage regular class in letter grading system” is significant with the chi square value 10.33 at 0.05 level of significance. A total of 50% of teachers agreed and 23% of teachers are undecided and 26% of teachers are disagree about this statement. It shows that most of the teachers are positive for this statement.

Statement “Effective teachers training program are needed for letter grading system” is significant with the chi square value 39 at 0.05 level of significance. A

total of 100% of teachers are agreed about this statement. It indicates that most of teachers are positive for this statement.

Statement “Our mathematics content is suitable for letter grading system” is significant with the chi square value 12.66 at level of significance. A total of 53% of teachers are agreed and 10% of teachers are undecided about this statement. It shows that majority of teachers are positive for this statement.

### **Attitudes of teachers towards output of students in letter grading system**

There were three statements related to the students output in letter grading system. The following table consists the mathematics teacher's attitudes and it corresponding  $\chi^2$ - value of the questionnaire related to letter grading system.

<b>Q.N</b>	<b>Statement</b>	<b>SA</b>	<b>A</b>	<b>U</b>	<b>DA</b>	<b>SDA</b>	<b><math>\chi^2</math>- value</b>	<b>Result</b>
9.	The letter grading system is contributive to increase necessary competencies on students.	5	13	11		1	16.66	S
13.	Letter grading system helps to identify the ability of students.	5	16	8			21.66	S
19.	Impact of letter grading system in mathematics class is more effectiveness.	8	12	3	5		11	S

Statement “The letter grading system is contributive to increase necessary competencies on students” is significant with the chi square value 16.66 at 0.05 level of significance. A total of 60% of teachers are agreed and 36% of teachers are undecided about this statement. It shows that most of the teachers are positive for this statement.

Statement “Letter grading system helps to identify of ability of students” is significant with the chi square value 21.66 at 0.05 level of significance. A total of 70% of teachers agreed and 27% of teachers are undecided about this statement. It means that most of the teachers are positive for this statement.

Statement “Impact of letter grading system in mathematics class is more effectiveness "is significant with the chi square value 11 at 0.05 level of significance. A total of 66% of teachers are agreed about this statement. It means that most of teachers are positive for this statement.

### **Comparison the attitudes of teachers and students towards letter grading system**

The second objective of the study was to compare the attitudes of secondary level teachers and students towards letter grading system. In order to achieve the objective, the researcher analyzed the data of teachers and students attitude distinctly which is presented below.

<b>Comparison</b>	<b>Sample(N)</b>	<b>Mean</b>	<b>S.D.</b>	<b>d.f.</b>	<b>t-value</b>	<b>Decision</b>
<b>Teachers</b>	30	3.72	0.48	208	2.39	Significant
<b>Students</b>	180	3.50	0.41			

Degree of freedom (d.f.) =  $N_1 + N_2 - 2 = 208$

Level of Significance ( $\alpha$ ) = 0.05

Therefore,  $t_{0.025, 118} = 1.96$

The hypothesis is rejected if  $-1.96 \leq t \leq 1.96$ . Otherwise accepted.

The analysis of the information mentioned in the above table represents there were 30 teachers and 180 students as sample. The grand mean response scores of teachers is 3.72 and standard deviation 0.48. Similarly, the grand mean response score of students is 3.50 and standard deviation 0.41. The difference mean views score

between these two groups is 0.22. The calculated t-value with respect to the difference of mean views score is 2.39, which is greater than tabulated t-value 1.96 at 0.05 level of significance. This shows that the calculated t-value is more than tabulated t-value; therefore, the research hypothesis is accepted. Thus, it conclude that attitude of mathematics teachers is better than attitude of students towards letter grading system in secondary level.

## **Chapter-V**

### **SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS**

After the analysis and interpretation of collected data as per the design of study and the research questions, in this concluding chapter an attempt has been made to draw a conclusion. This chapter represents the summary of the study with major findings and conclusion. Finally, the last section presents recommendations for the future study.

#### **Summary and Findings of the study**

This study was carried out to examine the attitude of secondary school level students and teachers towards letter grading system, the objectives of the study were: to find the attitude of mathematics teachers towards grading system in SLC, similarly, to find the attitude of students towards grading system in SLC and To compare the mathematics teachers and students attitudes towards grading system in SLC.

For the achievement of these objectives of the study, the researcher gathered data by method of questionnaire survey and used "likert Attitude Scale" as a tool. The population for the study consisted of secondary level students and teachers of Kathmandu district. It included Mangal Higher Secondary School at Kirtipur, in this school there were total 95 students and 5 mathematics teachers among them 30 students and 5 mathematics teachers were present for this test. Janasewa Higher Secondary School at Kirtipur, in this school there were 109 students among them 30 students and 5 mathematics teachers were present for this test. Gyanodaya Higher Secondary School at Kalanki, in this school there were 192 students and among them 50 students and 9 mathematics teachers were present for this test. Janaprabhat Secondary School at Kalimati, in this school there were 70 students among them 30 student and 4 mathematics teachers were present for this test. Parbhat Secondary

School at Asan, in this school there were 27 students among them 20 students and 3 mathematics teachers were present for this test. And kirtipur ma.vi, kirtipur there are 25 students in class ten among them 20 students 4 mathematics teachers and present for this test. Sample of the study were considered the secondary school level students of six secondary schools have 180 students and 30 mathematics teachers.

It was developed and constituted under main theme of conceptual framework and adapted from thesis on "Graduate student's attitudes towards grading system" by Michalis Michaelides and Kirshher (2005) and the help of experts of supervisor.

There are 30 statements, for students and 20 for teachers. These questionnaires consists different aspects of letter grading system such as daily behavioral uses, uses for higher study, difficulty of learning, the place of mathematics in society. Some questions related to view towards the subject. The questionnaire sheet was distributed 180 students of the sample. The researcher collected response of students on the spot. The scores of 1, 2, 3, 4, 5 were allotted to the skill in favor of strongly disagree, disagree, undecided, agree, strongly agree for statements respectively. The five points Likert- scale was adopted and responded were asked to indicate their options with a tick (✓) mark. The collected data were analyzed by using the statistical tools, following were the major findings of this study.

- The chi-square test and percentage of responses for the statements was used to find the attitude of secondary level students towards letter grading system. From this test, all statements are significant and students were favor for most of statements. Thus, the researcher found that the secondary level students had positive attitude towards letter grading system.
- The chi-square test and percentage of responses for the statements was used to find the attitude of secondary level mathematics teachers towards letter

grading system. From this test, all statements are significant and mathematics teachers were favor for most of statements. Thus, the researcher found that the secondary level students had positive attitude towards letter grading system.

- The mean score of each statement is above 2. It also shows that most of the students had positive attitude towards letter grading system.
- The mean score of teacher's attitude towards letter grading system was found higher than students.
- t-test was used to determine the significant difference between mean attitude score of teachers and students. It shows that they were significant difference between teachers and students attitude towards letter grading system.

### **Conclusion**

The forgoing result and discussion depicts a detailed picture of how students and teachers feel towards different aspects of letter grading system. The analysis and interpretation of this study shows that.

- The result revealed that most of the teachers even are not satisfies with the policy and practices adopted by the authority.
- Majority of students perceive continuous evaluation in letter grading system as burden as they respond that frequent examination can creates anxiety among students and an additional burden to students.
- The attitudes of secondary level students and mathematics teachers had positive towards letter grading system.
- Attitude of mathematics teachers is better than attitude of students towards letter grading system in secondary level.

## **Recommendations**

Since the present study was limited in secondary school within the Kathmandu district, so finding of the study can be generalized for the same district but it can't be generalized to all level and national wise. Due to the limited resources, time etc. the researchers could not address all the aspects of this study. So, considering these limitations the following recommendation had been made.

- To establish the findings, similar study should be carried out regional and national level.
- The comparison between the attitudes of mathematics teachers and students could be conducted.
- The action research on the whole process of letter grading system can be conducted as one of the large scale researches.
- In the lower graded the syllabus should be matched with upgrade syllabus.
- School should provide free extra classes for those students with low marks.
- It is recommended to study out the problem faced by the students in learning mathematics at secondary level.
- Trainings are provided to all teachers and it should be made more effective.
- Curriculum should address the historical background of each unit.
- Government should provide mathematical lab for every secondary level school.
- The authority must be address teachers expectation in the implementation and guidelines of letter grading system.

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## Appendix-A

### Questionnaire Form

Dear Teachers,

As a student of Master Degree in Mathematics Education. I'm going to conduct a "A study on attitude mathematics teachers and students towards letter grading system". This study is a part of the academic requirement for the Master Degree in Education. For this propose I distribute 30 statements concerned with attitude please study the statements carefully and give your own opinion by putting tick marks (✓) on any one of the following three rating of each statement.

### Personal Details

Name of the Teacher: .....

Name of the Institution: .....

Address: .....

### 1. Mathematics teacher's attitude towards letter Grading System

Q.N	Statement	SA	A	U	DA	SDA
3.	Letter grading system respects to teacher.					
8.	All subjects are equally important in letter grading system.					
12.	I understand about letter grading system.					
14.	Letter grading system is better than percentage and numerical system.					
15.	Letter grading system is essential for S.L.C level.					
17.	Letter grading system is favorable for weak students.					
20.	The letter grading system reduced the subjective biasness in evaluation.					

## 2. Teacher's attitudes towards the implementation of letter grading system

Q.N	Statement	SA	A	U	DA	SDA
1.	Present curriculum is effective for letter grading system.					
2.	The letter grading system tells that the teaching load to a teacher must be fixed.					
4.	There are clear guidelines to implement letter-grading system.					
7.	The course can be completed within the allocated time.					
10.	There are challenges to implement the letter grading system.					
11.	In letter grading system, the assessment and overall evaluation is transparent.					
16.	We need learning material and equipment in letter grading system.					

## 3. Attitudes of teachers towards the educational management

Q.N	Statement	SA	A	U	DA	SDA
5.	It is easy to manage regular class in letter grading system.					
6.	Effective teacher training program are needed for letter grading system.					
18.	Our mathematics content is suitable for letter grading system.					

## 4. Attitudes of teachers towards output of students in letter grading system

Q.N	Statement	SA	A	U	DA	SDA
9.	The letter grading system is contributive to increase necessary competencies on students.					
13.	Letter grading system helps to identify the ability of students.					
19.	Impact of letter grading system in mathematics class is more effectiveness.					

**Appendix-B**  
**Questionnaire Form**

Dear students,

As a student of Master Degree in Mathematics Education. I'm going to conduct a " A study on attitude of mathematics teachers and students towards letter grading system". This study is a part of the academic requirement for the Master Degree in Education. For this propose I distribute 30 statements concerned with attitude please study the statements carefully and give your own opinion by putting tick marks (√) on any one of the following three rating of each statement.

**Personal Details**

<p><b>Name of the Student</b> .....</p> <p><b>Name of the Institution:</b> .....</p> <p><b>Address:</b> .....</p> <p><b>Roll no:</b> .....</p>
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**1. Students Attitude towards letter Grading System**

Q.N	Statement	SA	A	U	DA	SDA
1.	I understand about letter grading system.					
4.	Letter grading system is better than percentage and numerical system.					
5.	Letter grading system is essential for S.L.C level.					
8.	Letter grading system is favorable for weak students.					
15.	I prefer letter grading system to the numbering system in higher education.					

17.	The letter grading system reduced the subjective biasness in evaluation.					
22.	All subjects are equally important in letter grading system.					
24.	Letter grading system not favors for talent students.					
29.	None of the students fails in letter grading system.					
30.	Due to the frequent examinations it creates Anxiety among the students.					

## 2. Attitudes of students towards the implementation of letter grading system

Q.N	Statement	SA	A	U	DA	SDA
7.	We need learning material and equipment in letter grading system.					
10.	Letter grading system helps to choice of field for further study.					
21.	In letter grading system, the assessment and overall evaluation is transparent.					
26.	Special privileges are given to students who are most accomplished.					
28.	Present curriculum is effective for letter grading system.					

**3. Attitudes of students towards the education management in letter grading system**

Q.N	Statement	SA	A	U	DA	SDA
3.	Teaching learning activities are more effective in letter grading system.					
6.	Do you fell the environment of classroom is more competitive.					
9.	Classroom is effective in letter grading system.					
11.	Letter grading system is motivated to students for more practices.					
12.	Impact of letter grading system in mathematics class is more effectiveness.					
13.	Practices of letter grading system in internal examination of school.					
18.	Students are made examination orientated in letter grading system then numbering system.					
20.	Ratio of students and infrastructure in the classroom are appropriate.					

#### 4. Attitudes of students towards output in letter grading system

Q.N	Statement	SA	A	U	DA	SDA
2.	Letter grading system helps to identify the ability of students.					
14.	You are motivated in learning activities by letter grading system.					
16.	The letter grading system is contributive to increase necessary competencies on students					
19.	The average achievement of students on letter grading system is higher than numbering system.					
23.	Letter grading system helps to improve student's achievement.					
25	Letter grading system helps to increase overall Performance of students.					
27.	Teachers provide regular feedback on students 'assignments, examination and reduce their negative wash back effect.					

## Appendix-C

### Student's responses and weighted mean of responses

#### 1. Students Attitude towards letter Grading System

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
1.	I understand about letter grading system.	60	452	105	24	8	3.6
4.	Letter grading system is better than percentage and numerical system.	190	176	90	84	21	3.11
5.	Letter grading system is essential for S.L.C level.	190	248	114	42	14	3.37
8.	Letter grading system is favorable for weak students.	415	268	36	22	7	4.15
15.	I prefer letter grading system to the numbering system in higher education.	145	232	87	40	25	3.44
17.	The letter grading system reduced the subjective biasness in evaluation.	265	232	141	24	9	3.72
22.	All subjects are equally important in letter grading system.	500	224	48	22	9	4.46
24.	Letter grading system not favors for talent students.	280	152	279	34	28	4.29
29.	None of the students fails in letter grading system.	315	172	93	64	24	3.71
30.	Due to the frequent examinations it creates Anxiety among the students.	335	212	84	30	19	3.77

## 2. Attitudes of students towards the implementation of letter grading system

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
7.	We need learning material and equipment in letter grading system.	290	260	141	12	2	3.91
10.	Letter grading system helps to choice of field for further study.	280	244	129	26	7	3.81
21.	In letter grading system, the assessment and overall evaluation is transparent.	145	136	153	42	12	2.77
26.	Special privileges are given to students who are most accomplished.	180	200	150	66	15	3.39
28.	Present curriculum is effective for letter grading system.	170	204	186	40	14	3.41

**3. Attitudes of students towards the education management in letter grading system**

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
3.	Teaching learning activities are more effective in letter grading system.	185	224	156	104	12	3.78
6.	Do you fell the environment of classroom is more competitive.	175	312	69	46	12	3.41
9.	Classroom is effective in letter grading system.	135	264	108	50	13	3.16
11.	Letter grading system is motivated to students for more practices.	265	236	96	38	16	3.61
12.	Impact of letter grading system in mathematics class is more effectiveness.	260	184	99	40	24	3.37
13.	Practices of letter grading system in internal examination of school.	255	184	93	40	35	3.37
18.	Students are made examination orientated in letter grading system then numbering system.	185	264	135	36	14	3.52
20.	Ratio of students and infrastructure in the classroom are appropriate.	250	184	102	42	29	3.37

#### 4. Attitudes of students towards output in letter grading system

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
2.	Letter grading system helps to identify the ability of students.	210	280	78	30	27	3.47
14.	You are motivated in learning activities by letter grading system.	195	252	120	42	17	3.47
16.	The letter grading system is contributive to increase necessary competencies on students	125	176	189	56	16	3.12
19.	The average achievement of students on letter grading system is higher than numbering system.	475	196	57	18	8	4.18
23.	Letter grading system helps to improve student's achievement.	300	292	63	32	10	3.87
25	Letter grading system helps to increase overall Performance of students.	235	244	150	38	3	3.72
27.	Teachers provide regular feedback on students 'assignments, examination and reduce their negative wash back effect.	25	272	81	18	15	2.28

## Appendix-D

### Teacher's responses and weighted mean of responses

#### 1. Mathematics teacher's attitude towards letter Grading System

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
3.	Letter grading system respect to teacher.	30	64	24			3.93
8.	All subjects are equally important in letter grading system.	30	32	3	8	1	2.46
12.	I understand about letter grading system.	35	76	12		1	4.1
14.	Letter grading system is better than percentage and numerical system.	35	64	15	4		3.93
15.	Letter grading system is essential for S.L.C level.	55	68		4		4.23
17.	Letter grading system is favorable for weak students.	95	24		4	2	4.1
20.	The letter grading system reduced the subjective biasness in evaluation.	55	60	6	4		4.16

## 2. Teacher's attitudes towards the implementation of letter grading system

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
1.	Present curriculum is effective for letter grading system.		60	18	16	1	3.16
2.	The letter grading system tells that the teaching load to a teacher must be fixed.	30	40	33	4	1	3.6
4.	There are clear guidelines to implement letter-grading system.	15	16	18	20	7	2.7
7.	The course can be completed within the allocated time.	25	32	33	10	1	3.36
10.	There are challenges to implement the letter grading system.	80	32	3	6	2	4.1
11.	In letter grading system, the assessment and overall evaluation is transparent.	65	40	9	2	3	3.96
16.	We need learning material and equipment in letter grading system.	55	56	15		1	4.2

### 3. Attitudes of teachers towards the educational management

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
5.	It is easy to manage regular class in letter grading system.	15	48	21	12	2	3.26
6.	Effective teacher training program are needed for letter grading system.	105	36				4.7
18.	Our mathematics content is suitable for letter grading system.	25	44	9	20		3.3

### 4. Attitudes of teachers towards output of students in letter grading system

Q.N	Statement	SA	A	U	DA	SDA	Weighted mean
9.	The letter grading system is contributive to increase necessary competencies on students.	25	52	33		1	3.7
13.	Letter grading system helps to identify the ability of students.	25	64	24			3.8
19.	Impact of letter grading system in mathematics class is more effectiveness.	40	48	9	10		3.63

## Appendix-E

### 1. Students Attitude towards letter Grading System.

Q.N	Statement	Even Roll No.	Odd Roll No.
1.	I understand about letter grading system.	39	41
4.	Letter grading system is better than percentage and numerical system.	43	43
5.	Letter grading system is essential for S.L.C level.	44	45
8.	Letter grading system is favorable for weak students.	39	44
15.	I prefer letter grading system to the numbering system in higher education.	48	47
17.	The letter grading system reduced the subjective biasness in evaluation.	44	38
22.	All subjects are equally important in letter grading system.	48	48
24.	Letter grading system not favors for talent students.	29	41
29.	None of the students fails in letter grading system.	38	40
30.	Due to the frequent examinations it creates Anxiety among the students.	30	31

### 2. Attitudes of students towards the implementation of letter grading system

Q.N	Statement	Even Roll No.	Odd Roll No.
7.	We need learning material and equipment in letter grading system.	38	43
10.	Letter grading system helps to choice of field for further study.	39	40
21.	In letter grading system, the assessment and overall	32	34

	evaluation is transparent.		
26.	Special privileges are given to students who are most accomplished.	31	37
28.	Present curriculum is effective for letter grading system.	37	38

### 3. Attitudes of students towards the education management in letter grading system

Q.N	Statement	Even Roll No.	Odd Roll No.
3.	Teaching learning activities are more effective in letter grading system.	38	42
6.	Do you fell the environment of classroom is more competitive.	38	38
9.	Classroom is effective in letter grading system.	39	39
11.	Letter grading system is motivated to students for more practices.	45	41
12.	Impact of letter grading system in mathematics class is more effectiveness.	38	44
13.	Practices of letter grading system in internal examination of school.	44	43
18.	Students are made examination orientated in letter grading system then numbering system.	41	35
20.	Ratio of students and infrastructure in the classroom are appropriate.	40	42

#### 4. Attitudes of students towards output in letter grading system

Q.N	Statement	Even Roll No.	Odd Roll No.
2.	Letter grading system helps to identify the ability of students.	45	44
14.	You are motivated in learning activities by letter grading system.	48	40
16.	The letter grading system is contributive to increase necessary competencies on students	41	39
19.	The average achievement of students on letter grading system is higher than numbering system.	34	35
23.	Letter grading system helps to improve student's achievement.	45	45
25	Letter grading system helps to increase overall Performance of students.	41	43
27.	Teachers provide regular feedback on students 'assignments, examination and reduce their negative wash back effect.	43	41

## Appendix-F

### Statistical Formula Used for Data Analysis

$$\text{i) Mean}(\bar{x}) = \frac{\sum fx}{N}$$

$$\text{ii) S. D.} = \sqrt{\frac{\sum(xi - \bar{x})^2}{N}}$$

$$\text{iii) } \chi^2 = \frac{\sum(fo - fe)^2}{fe}$$

Where, fo = Observed frequency

fe = Expected frequency

$$\text{iv) } t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}}$$

$$r_{oe} = \frac{\sum xy}{\sqrt{\sum x^2} \times \sqrt{\sum y^2}}$$

Where, df = N<sub>1</sub> + N<sub>2</sub> - 2

$\bar{x}_1$  = Mean of first sample

$\bar{x}_2$  = Mean of Second sample

N<sub>1</sub> = No. of teachers

N<sub>2</sub> = No. of students

$s_1^2$  = Variance of first sample

$s_2^1$  = variance of second sample