IMPACTS OF MATHEMATICS TEACHER, STUDENTS AND PARENTS TOWARDS LETTER GRADING SYSTEM IN SEE EXAMINATION

A

THESIS

BY

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FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE

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SUBMITTED

TO

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LETTER OF CERTIFICATION

This is to certify to Mr. Ramesh Bahadur Bhandari a student of academic of year 2071/72 with campus Roll No. 66 exam Roll No. 28710321, thesis number 1363 and T.U. Regd. No 9-2-329-634-2010 has completed his thesis under supervision of Lecture Ms. Sarala Luitel during the period prescribed by the rule and regulation of Tribhuvan University, Nepal. This thesis entitled "**Impacts of Mathematics Teacher, Students and Parents towards Letter Grading System in SEE Examination"** has been prepared based on result of his investigation. I ,here by recommended and forward that his thesis be submitted for evaluation as the partial requirements to the degree of Master of Mathematics Education.

…………......……………………

Assoc. Prof. Laxmi Narayan Yadav

Department of Head

Date: ………………

LETTER OF APPROVAL

A thesis by Ramesh Bahadur Bhandari entitled **"Impacts of Mathematics Teacher, Students and Parents towards Letter Grading System in SEE Examination"** has been approved for the partial fulfillment of the Requirements for Degree of Master of Mathematics Education.

Committee for Viva-Voice   **Signature**

Assoc. Prof. Laxmi Narayan Yadav   ……………………

   (Chairman)

Mr.Baikuntha Khanal   ……………………

   (External)

Ms. Sarala Luitel   ……………………

   (Supervisor)

Date: …………………

RECOMMENDATION FOR ACCEPTANCE

This is to certify that Mr. Ramesh Bahadur Bhandari, has completed his thesis entitled **"Impacts of Mathematics Teacher, Student and Parents towards Letter Grading System in SEE Examination"** under my supervision during the period prescribed by the rules and regulation of Tribhuvan University, Kirtipur, Kathmandu Nepal. I recommend and forward his thesis to the Department of Mathematics Education to organize final viva-voice.

……………………..

Ms. Sarala Luitel

(Supervisor)

Date: …………………

DEDICATION

Dedicated

To

My parents and all my family members whose blessings is with me forever.

DECLARATION

I hereby declare that to the best of my knowledge this thesis is original; no part of it was earlier submitted for the candidature of research degree to any university.

Date: …………   ....…..…..……………

Ramesh Bahadur Bhandari

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ABSTRACT

The study entitled "Impacts of Mathematics Teacher, Student and Parents towards Letter Grading System (LGS) in secondary Education Examination" was conducted to identify the impact of Mathematics teacher, students and parents towards LGS in SEE. The study followed survey research design. The population of the research consisted of secondary level students of Dadeldhura District. Two hundred and twenty students from five different schools were selected as the sample for the study through convenient sampling strategy. As per objectives of the study, three sets of questionnaire and interview schedule were prepared to collect the required data.

The data were analyzed and interpreted with the help of descriptive statistics .This study explores the impact of mathematics teacher, students and parents towards Letter grading system. This study carried out that most of teacher, students and parents are not satisfied with this system but they are positive towards this system. The most of teacher, students and parents have misconception and illusions about LGS due to the lack of knowledge and clear understanding about it. The dropout rate of the students is decreased after the implementation of LGS in SEE and weak students also got the opportunities for the higher studies.

This thesis consists of five chapters. The first chapter consists of background of the study, statement of the problem, objectives of the study, research questions, significance of the study, delimitations of the study and operational definitions of the key terms. Similarly, second chapter deals with the review of theoretical as well as empirical literature and its implication for the study; moreover, it includes the conceptual framework. Likewise, the third chapter deals with the methods and procedures of the study including research design and method of the study, population, sample and sampling strategy, research tools, sources of data, data

collection procedure, data analysis and interpretation procedure. In the same way, the fourth chapter contains the analysis and interpretation of the results. Finally, the fifth chapter incorporates the summary, findings, conclusion and recommendation of the study.

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LIST OF TABLES

ACRONYMS

CDC   : Curriculum Development Center.

GPA   : Grade point average.

LGS   : Letter Grading System

SEE   : Secondary Education Examination.

SLC   : School Leaving Certificates.

<center>**Chapter I**</center>

<center>**INTRODUCTION**</center>

Background of the Study

Education is something, which makes man self-reliant and self-less. Education is Process, which does all round harmonious development of the individual to modify his/her behaviors, attitude and thinking. Education means training for country and love for Nation. It plays a tremendous role in economic and social development and national Integration of country includes all the knowledge and experience, acquired during infancy, childhood, adolescence, youth manhood and old age any agency of education. Education is the touch stone of the civilization and culture of the country. It is an integral part and basis of human life. Education is as old as human existence and shall continue to function as long as the human race lives. It is an essential human virtue and man became man through Education (Sodhi, P.k, 2016).

According to Pestalozzi "Education is the natural harmonious and progressive development of man's innate Power". Education is process which dose all round harmonious development of the individual to modify his/her behavior, attitude and thinking. Education means training for the country and love for the national integration of country. In education sector there are different types of assessment system for evaluating the academic performance of the students. Out of many assessment systems letter grading system is one of the popular system in the world for evaluating the student performance in term of the grade. First time Yale university of USA introduced letter grading system in 1785 whereas university of Cambridge lunched it 1792. Several academic institutions in the world have been evaluating Students using the grading system, but there is no uniformity. We get varying

Parameters in different countries. The Nepalese grading system also seems to be Anomalous in comparison to international practice.

Grading system is a worldwide practiced system for labeling the quality of Students' academic performance. It converts the score of student in to the continuum of grades, which is essential for rating and judging students' performance in different areas of achievement as Well their global achievement. Multiple types of grading systems are practiced to rate the quality of students' performance. They can be broadly classified in to absolute and relative Grading system (Niroula, C, 2015). Relative grading system rates the students' Performance in comparison to the specified group of students. These present the score in terms of norms such as grade, Percentile and standard score norm. In contrary, absolute grading system rates the performance of student in terms of pre-determined standard of excellence based on their achievement in different areas of the course.

Generally, relative grading system is applied in a standardized test, in which we are assured about the uniformity of the process of test development, its administration and scoring and interpretation of test scores. However, all these processes are assured by the estimation of reliability and validity of the test, which is determined by empirical evidences in pre testing. These processes are not applied in academic tests employed in schools and college because of threat to secrecy of the test. It is assumed that pre- testing will break the secrecy of the test paper. However, the secrecy of test papers can be maintained by preparing a large "item bank" of pre tested items. The traditional Grading used in school and colleges for judging the quality of students' performance is absolute grading system in which the quality of performance of students judged against Pre-determined quality of standard such as distinction, first division, second division, third division, fail etc. or A, B, C, D and F

and so on. These grading systems can be further classified in to numerical and letter grading systems. In numerical grading system, the band of scores of students are termed as ranks of quality such as above 75% is termed as distinction and in letter grading system the band of scores are translated into letters such as A, B, C, D and F or E (Excellent), G (Good), S (Satisfactory) and U (Unsatisfactory) (J.B.Rana, S.P, 2016).

In the context of Nepal the office of controller of examinations (OCE) first introduced The grading system in SLC result in 2015 particularly in the field of technical and vocational subject. OCE will continue with the grading system in the SLC result in both technical and general fields of education from 2016.

S.N	Interval in percent	Grade	Description	Grade point
1	90 to 100	A+	Outstanding	4.0
2	80 to below 90	A	Excellent	3.6
3	70 to below 80	B+	Very Good	3.2
4	60 to below 70	B	Good	2.8
5	50 to below 60	C+	Satisfactory	2.4
6	40 to below 50	C	Acceptable	2.0
7	30 to below 40	D+	Partially Acceptable	1.6
8	20 to below	D	Insufficient	1.2
9	0 to below 20	E	Very Insufficient	0.8

(Source: CDC Report, 2015)

According to this system, SLC students are awarded A+ (90% and above), A (80% above and below 90%), B+ (70% above and below 80%), B (60% and below 70%), C+ (50% above and below 60%), C (40% above and below 50%), D+ (30% above and below 40%), D (20% above and below 30%) and E (below 20%) in the

SLC result from now onward it also keeps, A provision of N, which stand for zero score, if and when an examines submits a blank answer book or is expelled in the exam or in case of the candidates absenteeism. The newly introduced grading system is based on the transformation of row scores obtained by the examinees in to letter heads. Several discrepancies will appear if this conception is applied without any reforms (Niroula.C, 2015). After SLC, letter grading system is likely to be introduced in the HSEB (NEB) examination as well. A meeting of HSEB council chaired by education minister Mr. Girirajmani Pokheral has decided to introduce letter grading system in grade XI and XII. The council for technical Education and vocational training (CTEVT) also decided to implement letter grading System at various levels.

The current evaluation mode has been eliminated from the rest of the countries. The HSEB (NEB) believe that the new letter grading system will make Nepalese students competitive in the global stage. According to current plan students will be graded between A + to E on the basis of their performance. A+ will be equivalent to 4 GPA, A to 3.6GP A, B+ to 3.2 GPA, B to 2.8 GPA, C+ to 2.4 GPA, C to 2.0 GPA, D to 1.6 GPA and E to 0.8 GPA (Bhattari, 2017). Government of Nepal also announced for implementing the Grading system in basic level (class 8 examinations) as well from this year. Students will not marked as fail once this system is implemented which will help the student in their academic careers. There for this study was conducted for the study of Mathematics teacher, students and parents' impact towards the LGS and to determine what kinds of its affect in student, teacher and parents.

Statement of the Problem

This study is concern with to find impacts of mathematics teachers, students and Parents towards letter grading system in SEE. Because letter grading system is

newly Introduced in SEE for evaluating the students' performance .After introducing the LGS two batch of grade ten students has been evaluated by Latter Grading System .In this system many students secured D grade in mathematics but many mathematics Teacher, students and Parents don't know about there is different or not between LGS and number/percentage System, they are not cleared about what the GPA stand for and how to compare it with Percentage system and how to calculate the GPA. In this sense, the researcher want to study about impact of students, teacher and parents towards Letter grading system on Mathematics result of SEE, so the study will be mainly focused on the following research questions; 1) What is the impacts of students, teachers and parents towards letter grading system in SEE? 2) Is there any difference between impacts of teachers and students also teachers and parents towards letter grading system in SEE examination.

Objective of the Study

The major focus of the study is to analyze the impacts of mathematics teacher, Students and parents towards letter grading system in secondary education Examination. For the achieving the goal of research the following are the objective of Study;

- To find the impacts of mathematics teacher, students and parents towards
- letter grading system in secondary education examination.
- Compare the impacts of mathematics teacher, students and parents towards Letter grading system in SEE.

Significance of the Study

A research proposal should worth urgency of the study. It should indicate clearly how the result of research could influence educational theory. Mathematics is one of the most important subject, which acts as a bridge for all knowledge. In the

changing and dynamic worlds of competition there is growing demand of subject mathematics. The present study is to identify impacts of mathematics teacher, students and parents towards letter grading system in SEE. LGS is recent phenomenon for evaluation of students' academic achievement. Numerical grading system was not useful for evaluation of student's intelligence, LGS is most useful in evaluation of students Intelligence, which describes student's intelligence in the level, interval or range. Now LGS is used in SEE result as well as XI result. Many people do not know about LGS, misconception and misunderstanding about LGS also many teacher cannot describe LGS and GPA. So this study was concerned to find the impacts of secondary level mathematics teacher, students and parents towards LGS in SEE, determine the effects of LGS on students and teacher. Also this study has the following significances;

- This study helps to analyze mathematics teacher, students and parents impacts towards LGS.

- This study helps to identify the strong and weak aspects of LGS.

- This study helps for further research in LGS.

- This study helps the curriculum designer to improve the existing curriculum.

Research Hypothesis of the Study

Research hypothesis

There is positive impacts of mathematics teachers, students and parents towards letter grading system.

There is significance difference between impacts of mathematics teachers and students towards letter grading system.

There is significance difference between impacts of mathematics teachers and parents towards letter grading system.

Delimitations of the Study

The present research was carried out under the following limitation:

- This study was conducted only in grade ten mathematics teacher, students and their parents.

- Only 224 students and 8 mathematics teacher-were selected from sampled schools.

- This research was conducted only in Dadeldhura district.

- Only 10 parents were selected from sampled schools.

Definition of Some Specific Terms

Some definitions of the important concepts used in this research work are:

LGS: Letter grading system is a tool which describes the student achievement. Since letter grading system is systematic grading system of student's intelligence in level, interval or range.

GPA: Grade point average is an average performance of students. Which is calculated by adding up all accumulated final grade and dividing that figure by number of grades awarded.

Impacts: In this study the impact means views, attitude and belief of students, teacher and parents towards LGS in SEE

OCE: Office of Controller of Examination

CTEVT: Council for Technical Education and Vocational Training

Chapter II

REVIEW OF RELATED LITERATURE

Review of literature is a very important aspect of any research. A literature review is a description of the literature relevant to a particular field or topic (Sodhi, 2016). Every piece of ongoing research need to connect with the work which has been done already. The review of Literature is needed to attain an overall relevance and purpose. It tells the reader about aspect that have already established or concluded by other researcher. It is link between the research proposed and the research already done. A careful review of the research journals, book, dissertations thesis and other sources of information on the problems to be investigated is one of the important step on the planning of any research study. It is also important to highlight difference in opinions, contradictory evidence and the different explanations gives for their conclusion.

Empirical Literature

Thapa Magar (2017) did a research on the topic "Opinion of mathematics teacher and students towards letter grading system under the supervision of Dr. Eka Ratna Acharya with the aim to know the opinion of mathematics teacher and students towards LGS in SEE and to know the challenges and opportunities to the teacher and student on the using LGS in SEE. On his study he found that there was positive opinion of secondary level mathematics teacher and students towards LGS in SEE. Even though teacher, parents and students were generally not satisfied with LGS because most of teacher, students and Parents have misconception, misunderstanding and illusion about LGS due to the lack of the knowledge and clear understanding about LGS. Therefore there is necessary to training, orientation, program to teacher,

parents and students to understand about GPA and LGS. He also point out the some challenges related to GPA and LGS.

Paneru, (2015), did a research on the topic Letter Grading System: perceptual difference and students motivation to learn mathematics (A case study).This case study about LGS in order to explore perceptual similarity and difference among Mathematics teacher, students, parents in relation to improve student's mathematics achievement and its effect on students' motivation to learn mathematics at secondary school. In this research, researcher made 4 group of students including purposively 8 students in each group from public and private school. There were 37 students who were evaluated through LGS in TSLC examination in 2071. The collected information analyzed qualitative and connected with Maslow's hierarchy of need theory and Holland theory of carrier choice.

Acharya, (2016) Conduct a research on the topic Attitude of secondary schools level students and teachers towards LGS in Kathmandu district. The purpose of his research was to find the attitude of mathematics teacher and students towards LGS in SLC and compare the attitude of mathematics teacher and students towards the LGS. In his research he collected data by the method of questionnaire survey and used Likert attitude scale as a tool. The population of his research taken from different school of Kathmandu district. In his study the result revealed that most of teacher even are not satisfied with the policy and practice adopted by the authority. Majority of students perceive continuous evaluation in LGS as burden as they respond that frequent examination can creates anxiety among students and additional burden to students. The attitude of secondary level students and teacher had positive towards LGS. attitude of mathematics teacher is better than attitude of students towards LGS in secondary level.

Morgan, Tallman & Williams, (2007), did research on the topic "Student &Faculty views of plus-minus grading system .The major focus of this study is analysis of how faculty and students impact of the benefits of a +/- grading system at midsize public university in the southwest. This study examined the extent of use of+/- grades in AACSB a credited business schools by collecting data from 99 such schools. Sixty Percent of the schools use some variant of a +/- grading system, 32 percent use only whole –letter grading and the remainder use a single intermediate grade. A survey of faculty and student opinions about a move to +/- grading at a mid-sized university in the south west provides a number of interesting insights. There is a strong divergence between student and faculty opinions. Over half of faculty respondents support +/- grades at least somewhat strongly as compared to only 15 percent of students. Nearly half of student respondent suppose the change at least somewhat strongly. Students and faculty supporting the +/- grading system cited very similar reasons for their support – the belief that grades will more accurate and refined and the belief that grades will be fairer or better for students. Some students also indicated the change would provide incentive to work harder. Some faculty felt it would combat grade inflation and improve student motivation. Students who oppose the change believe there will be a negative impact on GPA's (352 students believe this versus 35 who believe grades would improve).The next most prevalent student comment was that they prefer the current system and see no need for a change. Faculty who opposed the change commented most frequently that there is little benefit from the change and next that it will increase grade challenges or make grading more difficult for faculty. Opposition to the change was strongest and support for +/- grades was weakest among students in colleges is suing the highest average grades. In addition, sophomores and juniors and students with higher GPAs tend to be most

strongly opposed. This suggests that student opposition to a +/- grading system could be reduced by implementing it in a phased manner (starting with the freshman class) and by finding a way to incorporate a grade of A +. In addition, resistance to change theory suggests that it is important that the reasons why the use of +/- grades might be in the best interest of students be effectively communicated throughout the process and that students groups should be involved early in any proposal to institute +/- grades.

Karim & Hossian (2014) did research on the topic "Grading controversies in the assessment of university graduate in Bangladesh". The aim of this study was to find out the purpose of grading, problem with current grading practices, and the impact of such discrete grading system on the learners and teachers. For this research the researcher include 17 teacher and 89 students of private universities and two separate questionnaire. There is grading imbalance in the private universities in Bangladesh and it affects the graduates in the job market. Therefore, discriminatory grading policies need to be avoided and a uniform grading policy should be introduced. Both teachers and students should have idea about the UGC grading scale. They also need to have knowledge about relative grading. Institutional assessment needs to be standard as well as satisfactory to its learners. This is because assessment has impact on students learning and better assessment policy acts as a motivating factor for the students. Grading as a part of assessment is an important part of teaching and learning. Every institution needs to ensure that the assessment procedures address the course objectives and provide an appropriate mechanism to assess its students' learning and understanding.

Dauncey, (1986) did research on the topic "Assessment of Teachers grading practices" for the degree of Master of Arts from the university of British Columbia.

The main purpose of this study was to determine if letter grade could be made more reliable by statically balancing raw achievement score prior to aggregation for reporting purpose. This investigative study was designed to evaluate the grading method by 37 randomly selected elementary school teachers. Data were collected by questionnaire and rank a hypothetical set of raw achievement score. The ranking of the original aggregate scores were compared to those derived from the balanced aggregate scores using the spearman Rank correlation coefficient. As a result, this approaches to grading has often received criticism from those who question its reliability and usefulness.

Schneider & Hutt, (2013) write an articles on the topic " Making the grade: A history of A-F Marking scheme "which is published on journal of curriculum studies in 16 may 2013. In this article researcher provides a historical interpretation of one of the defining features of modern schooling: grades. As a central element of schools, grades–their origins, uses and evolution–provide a window into the tensions at the heart of building a national public school system in the United States. The researcher argue that grades began as an intimate communication tool among teachers, parents, and students used largely to inform and instruct. They saw grades as useful tools in an organizational rather than pedagogical enterprise–tools that would facilitate movement, communication and coordination. Reformers placed a premium on readily interpretable and necessarily abstract grading systems.

There are many research are done in the topic LGS in the different fields. But there is no research about impacts of mathematics teacher, students and Parents towards LGS in Dadeldhura district. The researcher find the impacts of mathematics teacher, students and parents impacts towards letter grading system in Dadeldhura.

Conceptual Framework

Conceptual framework provides the structure for the whole study based on literature and personal experience. Positive attitude gives greatest contribution in effective implementation of letter grading system. Attitude towards letter grading system may be depending upon different variables (understanding, practice, policy, challenges etc). Those variables are expectation of students and teachers satisfaction. In the previous research, Paneru (2015), focused on his study at impact, motivation, practice, perceptual similarity and differentiate among teachers, students and parents on letter grading system. He concluded there was positive and negative impact, more negative and less positive motivates among stakeholders. But after implementation of LGS the talent students motivated by higher grade and less talent student motivated by medium grade. He also concludes the perceptual similarities among stakeholder are nobody fails in SEE examination. By the grading system the students intellectual level in term of fix intervals and ranges. This research focused on impact of students, teacher and their parents towards LGS. Secondly the Methodology: This study was survey research design. The collected data were analyzed quantitatively as well as qualitatively. The primary data were collected through questionnaire and interview guidelines.
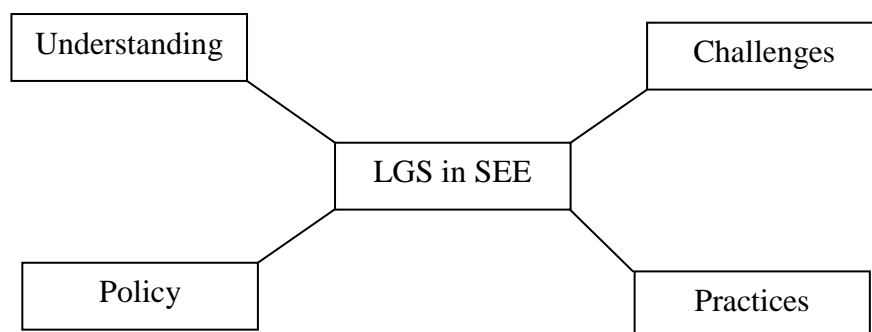
Sources: Paneru (2016)

Chapter III

METHODS AND PROCEDURES

This chapter describes the design of the plan and procedure of the study which carried out to achieve objectives of the study. In this chapter, the topics Research Design, Population of the Study, Sample of the Study, Data Collection Tools, Reliability of Tools, Validity of Tools, Data Collection Procedure, Data Analysis Procedure were describe separately as.

Research Design

Research design is the way of direction to reach a goal of the research and find out the problem. The researcher selected the research design to get the answer of the research question objectively, rapidly and economically as it is possible. The research design of this study was survey, which conducted on eight secondary schools' sample students and mathematics teachers from selected schools. The data was collected through primary sources. The primary data was collected through attitude scale form as well as interview guideline from students and mathematics teachers towards LGS. For the analysis of obtained data, I adopted mixed method approach.

Population of the Study

The population of this study constituted of all the mathematics teacher of secondary level and students who are studying on grade X of Parshuram Municipalities of Dadeldhura district in academic year 2075 BS.

Sample of the Study

The accuracy of your findings largely depends upon the way you select your sample. The basic objective of any sampling design is to minimize, within the limitation of cost, the gap between the values obtained from your sample and those

prevalent in the study population. The underlying premises in the sampling is that a relatively small number of units, if selected in a manner that they genuinely represent the study population can provide - with a sufficiently high degree of probability – a fairly true reflection of the sampling population that is being studied (Kumar R., 2011).

First of all, the list of the secondary schools was prepared from the database maintained by the Education Office. According to the educational statistics available from Education Office of Dadeldhura district, there were twenty government secondary schools during the academic year 2075 BS in Parshuram Municipalities of Dadeldhura district. From this, twenty secondary schools (40% of total) were selected by the method of random sampling. Twenty eight students and one mathematics teacher were selected from each selected schools. Therefore, 8 mathematics teachers and 224 students were total sample of this research/study. Again the researcher was taken two mathematics teachers, two students and two parents from above sample for interview purpose.

Data Collection Tools

Data collection is very important part of the study. There are many tools to collect the data from the selected sample. In this study the researcher was collected data related to impact of mathematics teacher students and parents towards Letter Grading System in SEE by using following tools:

Attitude Scale Form

In this study the researcher was used attitude scale for the determining of impact of mathematics teachers, students and parents about letter grading system on SEE. There were thirty one statements for teachers and twenty two for students and ten statement for parents based on understanding, practice, policy, challenges, of LGS

having five point Likert responses Strongly Agreed, Agreed, Undecided, Disagreed and Strongly Disagreed for each item.

Interview Guideline

Interview is an attractive proposition involving a set of assumptions and understanding about the situation which is not normally associated with a casual conversion. Interviews are also referred as an oral questionnaire by some people on which data is collected directly from other in face to face contact. Interview expresses the internal thought, interest, personal thinking and opinions. It is a tool to find out personal experience expresses, internal thought of person according to their acting looking and facial expression. The interview was taken from three mathematics teachers and four students to explain the understanding, practice, challenges, and opportunity of LGS in SEE.

Reliability of Tools

The basic idea of reliability is summed up by consistency. Split-half method was used to estimate the reliability of attitude scale form. A pilot study was conducted to access the reliability of this tools or instruments. The pilot study was carried out on twenty students of grade X of Dadeldhura district. Each student's odd and even responses were matched for scale items ratings are five points Likert scale. Every item was evaluated on its merit type. The Karl Pearson's coefficient correlation was used on interval and ratio scale data only. Here the data were in the interval scale, so we use the Karl Pearson's coefficient correlation to determine the correlation between the odd responses and even response and is that 0.25 (i.e. $r_{oe} = 0.25$. But this correlation covered only half data, because the data divided in two parts odd and even. So that, to find total data's reliability. We used Spearman Brown's step-up-formula, which was found to be 0.4 (i.e. $r_t = 0.4$), which shows that the attitude scale form had reliable.

Validity of Tools

For the validation process, attitude scale form and interview guidelines were taken from reviewed literature. Tools were modified under the kind control of supervisor and exports of the subject based on conceptual framework.

Data Collection Procedures

Researcher visited the selected schools and explained the purpose and process of the study to the administrators of the respective schools. Similarly, the researcher asked for permission to the administrators to allow their teachers and students to assist the study by filling questionnaire. Furthermore, researcher developed good rapport with teachers and students requested them to fill the questionnaire. For the purpose of parents' data collection procedure, the researcher asked some questions and distributed the questionnaire to fill up. Finally, the researcher collected the questionnaires and thanked the students, teachers, administrators and parents for their co- operation.

Data Analysis Procedure

After collecting data from selected sample using attitude scale forms. The researcher scored of each item i.e. statements of each on attitude scale form on the basis of Likert's five points scale; five point for strongly agree, four point for agree, three point for undecided, two point for disagree and one point for strongly disagree for positive statement. Similarly, the scoring procedure of negative statement was reversed. After collecting such data the researcher used mean weightage, percentage and t-test. The mean weightage located the central position of the opinions of teachers and students as a whole in the rating scale. The calculated weightage as follows:

Total weightage $= 5n_1 + 4n_2 + 3n_3 + 2n_4 + n_5$ (it is for positive statement and for negative statement it is reverse)

Weightage Mean = Total weightage/$n_1+n_2+n_3+n_4+n_5$

Each statement was studied in terms of mathematics teachers and students response. The researcher had made the criteria that if the mean weightage score is greater or equal to three then the statement is favorable and if the mean weightage score is less than three then the statement is non-favorable. Also if students and mathematics teachers give agree response more than disagree response except undecided on any statements then they have positive attitude towards that statement otherwise it is negative. By the help of t-test at 0.05 level of significance, the researcher found out the comparative attitude of mathematics teachers and students.

To analyze the qualitative data, descriptive and analytic method was adopted. The data collected from interview and observations were analyzed descriptively on the basis of conceptual framework. We use general inductive approach of Thomas for data analyze based on conceptual framework. Firstly, the researcher was constructs different themes based on the conceptual framework. Researcher was made attitude scale form and interview guideline tools based on these themes. After that researcher was collected required data from students and mathematics teachers using these tools. The data collected from interview and observations from the students and mathematics teachers were analyzed descriptively on the as per themes in the conceptual framework.

Chapter IV

ANALYSIS AND INTERPRETATION OF DATA

This chapter includes the analysis and interpretation of information obtained from questionnaire and interview. As this study was be carried out to find out the impact of mathematics teachers, students and parents towards letter grading system in SEE. The collected data would be analyzed by using weighted mean and percentages of each statement. The objective of this study was to analyze the impact of secondary level mathematics teacher, students and parents towards LGS in SEE, comparison of the impacts of mathematics Teacher, Students and parents and also explore the challenges of LGS .

Teachers Impacts towards Letter Grading System

From the data analysis, the average weightage mean of teachers responds towards LGS is 3.43. The 17 statement out of 31were above the average weightage mean. Thus teacher has positive impact towards LGS. The impact of the teacher present below is sub –divided into the four categories viz. impact towards understanding, impact towards practice, impact towards challenge and impact towards policy.

Impacts of Mathematics Teacher Towards Understanding Letter Grading System

The table presented below shows the number of responses, impacts scores and corresponding mean weightage value of the statements enlisted the understanding of letter grading system.

Table 1: Impacts of Mathematics Teacher towards Understanding Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
1	I understand about LGS and GPA.	20	28	3	0	0	51	4.25	F
2	I understand how to provide letter grade and GPA.	10	16	12	8	0	46	3.83	F
16	Teacher, students, and parents are satisfied to using LGS in SEE.	5	4	9	10	1	29	2.63	NF
18	LGS helps to improve student's achievement than pass/ fail system.	10	28	6	0	1	45	3.75	F
20	LGS helps to increase overall performance of students than the pass fail system.	10	32	3	2	0	47	3.91	F
24	Students' motivation is increasing after using LGS.	10	20	6	2	0	38	3.8	F

Note: SA: Strongly, Agree A: Agree ,U: Undecided, D: Disagree,SD: Strongly Disagree ,F-Favorable and NF- Non favorable.

From the above table, the six statements were favorable having weighted mean value more than three. The average weightage mean of teachers responds towards LGS is 3.43. The table one shows that four statements out of six were above

the average weighted mean.It means that teacher were favour on understanding on LGS.

Now, the 1st statement "I understand about LGS and GPA." Has mean weighted score was 4.25>3. This shows that the statement is favorable. A total of 91.66 % of teacher agreed with this statement and only 8.34% teacher's undecided with this statement .This indicates that most of the teacher are in favour of this statement.

Similarly, the 2nd statement "I understand how to provide letter grade and GPA.". The weighted mean score was 3.83>3. This shows that the statement is favorable. More than 50 % of teacher agreed with this statement, 33.33 % teacher's undecided and 16.66% teachers disagree with this statement .This indicates that 50% of the teachers are in favors of this statement .Likewise, 16th statement "Teacher, students, and parents are satisfied to using LGS in SEE." . The weighted mean score was 2.63 < 3. This shows that the statement is non –favorable. A total number of 18.18 % of teacher agreed with this statement and 27.28% teachers undecided &54.54% of teacher disagreed with this statement .This indicates that most of the teacher are against of this statement.

The 18th statement "LGS helps to improve student's achievement than pass/ fail system." and 20th statement "LGS helps to increase overall performance of students than the pass fail system" are favorable with weighted mean score 3.75 and 3.91 respectively. Majority of (above80 %) of teacher agreed with this statement t .This indicates that most of the teacher are favour of these statement.

The 24th statement "Students' motivation is increasing after using LGS." has weighted mean score was 3.8 > 3.This shows that the statement is favourable.A total number of 70 % of teacher agreed with this statement and 20 % teachers undecided &

10 % of teacher disagreed with this statement .This indicates that most of the teacher are favour of this statement.

To validate this result the researcher conducted an interview with two mathematics teachers. The understanding of grading system includes the knowledge and impacts on letter grading system. The selected teacher puts positive as well as negative views towards LGS. One teacher views that letter grading system is good because it minimize the dropout rate of students and made the international standard criteria. It also helps to maximize the Passed percentages of the students. There are some drawbacks of this system. In this system the students seem to be careless because they think that they will pass in the examination without reading comprehension. Likewise the ancient or traditional teacher seems to have less knowledge about LGS. So, they try to convert GPA into percentages.

In this way teacher A supported to the positive side of LGS. He said "*The government of Nepal has implemented perfect system in which the dropout rate of the students decreased because of not having fear of getting failed in examination*". From this view we can say that government has initiated good system to minimize the dropout rate of students and to develop the reading habit of students. Though there are many obstacles from both the teacher and student's .It has also positive effect on student's achievement and hard labor and it also create pressure on students to complete the assignment on time.

Similarly, teacher B said "*Letter grading system is not good because this system was implemented without having any orientation to the stakeholders' therefore this system does not become effective.*" From this view we can say that the teachers are unknown about letter grading system. They don't know how this system is

effectively implemented in student's achievement and how to convert the marks into grades. Though this system is considered good but it lacks certain qualities which have created misunderstanding to understand letter grading system.

Hence from the above data interpretation the researcher concluded that mathematics teacher were positive towards letter grading system though there are some drawback of this system. The participated teacher in an interview had positive and negative impact on letter grading system. Letter grading system is newly implemented system which has increased the student's desire and wants. It is not only system but it has increase the innate power of the students through critical thinking and collaborative learning and decrease the dropout rate of students .The traditional teacher did not support this system because there is no fail system which is useless after the implementation of letter grading system. The psychological fear of both teacher and students decrease because the students get chance to higher study even though they get lower grades.

Impacts of Mathematics Teacher Towards Practice Letter of Grading System.

The following table presented the teachers impact towards practice the teachers responses and corresponding mean weighted value of each statements related to the practice of letter grading system.

Table 2: Teachers Impacts towards Practice of letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
3	LGS is an improvement criteria for measurement of the students' progress.	20	24	6	0	0	50	4.16	F
4	LGS has positive effect in	10	20	6	6	0	42	3.5	F

	students' academic achievement.							F
5	Grading includes on critical thinking, collaborative learning and writing ability of the students.	5	16	0	4	1	26	3.15	F
6	High grades can motivate students to learn.	25	16	6	0	0	47	4.27	F
7	LGS reflects the influence of teacher's teaching activity and responsibility.	20	28	3	0	0	51	4.25	F
11	LGS should be practiced for internal evaluation of students' achievement.	0	28	6	2	2	38	3.16	F
14	Students fills good in GPA system in LGS than pass fail system.	15	12	0	8	1	36	3.27	F
15	LGS is same as pass- fail system or numerical system.	15	4	6	12	0	37	2.67	NF
25	LGS helps to decrease the dropout rate of the students.	10	16	6	6	0	38	3.45	F
26	Teacher has better	5	36	6	0	0	47	3.91	F

	understanding of his teaching styles by using LGS.							
30	The facilities of library and reading hall for students, as well as teachers, are well managed.	20	20	3	4	0	47	3.91	F
31	Replacement of LGS instead of percentage is better for all level of education.	5	12	15	4	1	37	3.08	F

From the above table, the eleven statements were favorable having weighted mean value more than three. The average weightage mean of teachers responds towards LGS is 3.29. The table one shows that eleven statements out of twelve were above the average weighted mean. It means that teacher were favors on practice of LGS.

The 3rd statement "LGS is an improvement criteria for measurement of the students' progress." has weighted mean was 4.16>3. This shows that a total of 83.33 % of teacher agreed with this statement, 16.67 % teacher's undecided with this statement .This indicates that most of the teachers are in favors of this statement.

Similarly, 4th statement "LGS has positive effect in students' academic achievement." and 5th statement "Grading includes on critical thinking, collaborative learning and writing ability of the students." are favorable with weighted mean score

was 3.5 and 3.15 respectively. This shows that above 70% of the teacher are in favors of this statement.

The 6th statement **"High grades can motivate students to learn."** has weighted mean score was 4.27 > 3. This shows that the statement is favorable. A total of 81.82 % of teacher agreed with this statement and 18.18% teacher's undecided with this statement .This indicates that most of the teachers are in favors of this statement.

The 7th statement "LGS reflects the influence of teacher's teaching activity and responsibility." has weighted mean was 4.25 > 3. This shows that the statement is favorable. A total of 91.66% of teacher agreed with this statement and 8.34% teacher's undecided with this statement .This indicates that most of the teachers are in favors of this statement.

Now, the 11th statement "LGS should be practiced for internal evaluation of students' achievement." has weighted mean was 3.16 > 3. This shows the statement is favorable. A total number of 58.34% of teacher agreed with this statement, 16.66 % undecided and 25% teachers disagreed with this statement .This indicates that most of the teachers are in favors of this statement.

Likewise, 14th statement "Students fills good in GPA system in LGS than pass fail system." has weighted mean was 3.27 > 3. This shows that the statement is favorable. A total number of 54.54 % of teacher agreed with this statement and 44.46% teachers disagreed with this statement .This indicates that most of the teacher are in favorer of this statement.

The 15th statement "LGS is same as pass- fail system or numerical system." has weighted mean score was 2.67 <3. This shows the statement is not favorable. A total number of 33.34 % of teacher agreed with this statement and 16.66% teachers

undecided &50% of teacher disagreed with this statement .This indicates that 50% of the teacher are against of this statement.

The 25th statement "LGS helps to decrease the dropout rate of the students." has weighted mean score was 3.45 > 3. This shows that the statement is favorable. A total of 54.54 % of teacher agreed with this statement and 18.18 % teachers undecided & 27.27 % of teacher disagreed with this statement .This indicates that most of the teacher are favors of this statement.

Similarly, 26th statement "Teacher has better understanding of his teaching styles by using LGS." has weighted mean score was 3.91 > 3. This shows that the statement is favorable. A total number of 83.34 % of teacher agreed with this statement and 16.66 % teacher's undecided with this statement .This indicates that most of the teacher is favors of this statement.

Now, 27th statement "Student's achievements affected by physical facilities such as: classroom, seminar hall, counseling room, teacher's cabin, lab room and so on." has weighted mean score was 3.75 > 3. This shows that the statement is favorable. A total number of 66.66 % of teacher agreed with this statement and 8.34 % teachers undecided & 25 % of teacher disagreed with this statement .This indicates that most of the teacher are favors of this statement.

Likewise, 30th statement "The facilities of library and reading hall for students, as well as teachers, are well managed." and 31th "Replacement of LGS instead of percentage is better for all level of education." are favorable with weighted mean score 3.91 and 3.08 respectively. This shows that total number of above75 % of teacher agreed with this Statement.

In this context the researcher asked about practice of LGS in internal evaluation and examination. The teacher's views that there are different types of problems in the implementation of LGS in internal evaluation. Lack of the knowledge is about LGS is not practices .In this connection teacher A puts his views.

He said *"Letter grading should be in grades but due to lack of knowledge still the teacher uses traditional system while evaluating their students in the internal examination."*

From above view we can say that maximum teacher uses the traditional system of evaluation .while evaluating their student in internal examination. Likewise they lack the knowledge of letter grading system. Therefore there is more chance of having hello effect in this system.

Similar view was given by teacher B. He said:

"We applied LGS in grade eight and nine from last year only in final mark sheet but could not use this process in internal evaluation like as terminal, half yearly exam."

From these views we can say that latter grading system was not applied initial phase because lack of sufficient training and knowledge about grading system. But letter grading system was applied from last year only grade eight and nine in final mark sheet. It is not used the process of internal evaluation such as terminal, half year exam.

Similarly, the researcher asked teacher training and orientation about LGS. Both teachers view was lack of teacher training. Orientation and training is most important thing to use any system effectively. LGS is a new system in the education sector and teacher is main part of this. So teacher training is very important part to

implementation of LGS. But the view of teacher training was not provided. In this connection a support was given by A. He said *"only head teachers are called in course of training but not subject teachers."* and teacher B said *"Only highest grades are given to the brilliant students without evaluating other criteria like extracurricular activities performed at school"*

From both teachers the teachers view we can say that there is no any type of training provide to subjects teachers but provide only head teachers; It is lack of grading system. To success and better is grading system it should be provide teacher training .This system has not incorporated other criteria for evaluating students' performance in-term of grade

Similarly, the researcher asked about teacher's role to motivate students in teaching learning. Both teachers gave positive view to facilitate students in learning. In this sense the teacher A said *"I am facilitating my students by giving proper instruction to get better grades."* From this view we can say that teacher played the role of facilitator and motivator to arouse the interest of students in learning which helps to obtain high grades. Another teacher B said:

"I conduct different activities in the class room like quiz contest , brainstorming ,group discussion to motivate the students in learning ."

From this view, we can say that teacher should conduct different activities in classroom rather than focusing on the teaching the content. The role of teacher is important to increase motivation to learning.

Hence from the above interpretation of data the mathematics teachers had positive attitude on practice of LGS. It means that mathematics teachers are favorable on practice of LGS. The participated teachers in an interview said that the grading

system had applied evaluation system. But there is no training and orientation program for teachers to understanding LGS.

Impacts of Mathematics Teacher Towards Policy of Letter Grading System

The following table presented the teachers impacts towards the teachers responses and corresponding mean weighted value of each statements related to the policy of letter grading system.

Table 3: Impacts of Mathematics Teacher Towards Policy of Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
8	Training is sufficient for teachers and stockholders about understanding LGS and GPA.	20	8	6	0	4	38	3.16	F
9	Orientation programmers are not sufficient for understanding LGS and GPA	2	10	6	4	5	27	3.02	F
12	The course can be completed within the allocated time.	15	12	6	4	1	38	3.45	F
13	In LGS, the assessment and overall evaluation is transparent.	10	12	9	6	0	37	2.36	NF
17	There is clear policy and guidelines to implement LGS	10	0	3	14	2	29	2.41	NF
21	The management provides pre –training and dissemination programmers for the teachers	15	12	6	2	3	38	3.16	F

From the above table, the four statements were favorable having weighted mean value more than three. The average weightage mean of teachers responds towards policy of LGS is 2.92. The table three shows that four statements out of six were above the average weighted mean. It means that teacher were favors on policy of LGS.

The 8th statement "Training is sufficient for teachers and stockholders about understanding LGS and GPA." has weighted mean was $3.16 > 3$. This shows that the statement is favorable. A total number of 50% of teacher agreed with this statement and 16.66% teacher's undecided &33.34% teachers disagreed with this statement .This indicates that only 50% of the teacher are in favors of this statement.

Likewise, 9th statement "Orientation programmers are not sufficient for understanding LGS and GPA." has weighted mean was $3.02 > 3$. This shows that the statement is favorable. A total number of 63.64% of teacher agreed with this statement, 18.18% undecided and 18.18% teachers disagreed with this statement .This indicates that most of the teacher are in favour of this statement.

Now, 12th statement **"The course can be completed within the allocated time."** has weighted mean was $3.45 > 3$. This shows that the statement is favourable. A total number of 54.54% of teacher agreed with this statement, 18.18 % undecided and 27.27% teachers disagreed with this statement .This indicates that most of the teacher are in favoure of this statement.

Similarly 13th statement **"In LGS, the assessment and overall evaluation is transparent."** has weighted mean score was $2.36 < 3$. This shows that the statement is not- favorable. A total number of 45.46% of teacher agreed with this statement, 27.28

% undecided and 27.28% teachers disagreed with this statement .This indicates that most of the teacher are in against of this statement.

Now, 17th statement "There is clear polices and guidelines to implement LGS." has weighted mean was 2.41 < 3. This shows that the statement is not favorable. A total number of 16.66 % of teacher agreed with this statement and 8.34% teachers undecided &75% of teacher disagreed with this statement .This indicates that most of the teacher are against of this statement.

The 21st statement "The management provides pre –training and dissemination programmers for the teachers." has weighted mean score was 3.16 >3. This shows that the statement is favorable. A total number of 50 % of teacher agreed with this statement and 16.66 % teachers undecided & 33.34% of teacher disagreed with this statement .This indicates that 50% of the teacher are favors of this statement.

To verify above result the researcher held the interview teacher about policy of LGS .In this regard teacher (A) said "*There is no clear-cut policy about LGS system because the government has not provided any guidelines and orientation program to the teacher to understand LGS system*" and also teacher B said *"There is no supervision policy to evaluate the internal marks provided by the subject teacher."* From these view we can conclude that the policy maker has initiated the program without any orientation to the subject teacher and no supervision policy is implemented.

Impacts of Mathematics Teacher Towards Challenges of Letter Grading System

The following table presented the teachers impact towards the teachers responses and corresponding mean weighted value of each statements related to the challenges of letter grading system.

Table 4: Impacts of Mathematics Teacher Towards Challenges of Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
10	The present curriculum has enough idea provided for LGS	0	4	9	10	2	25	2.27	NF
19	The teacher feels more stressed but responsible and accountable to students teaching and learning in LGS in comparison to the pass-fail system.	15	16	6	2	2	41	3.41	F
22	Teacher provides regular and reflective feedback on the students' assignment, examination and reduces their wash back effect.	5	20	6	6	1	38	3.16	F
23	LGS provides opportunity to re -test to increase grade for students who secure low grade.	10	24	9	2	0	45	3.75	F

28	Ratio of students and infrastructures in the classroom are appropriate.	15	20	3	6	1	45	3.75	F
29	ICT tools in classroom helps to get better achievement or grade.	30	12	6	2	0	50	4.16	F

From the above table, the five statements were favorable having weighted mean value more than three. The average weightage mean of teachers responds towards challenges of LGS is 3.41. The table four shows that four statements out of six were above the average weighted mean. It means that teacher were favors on policy of LGS.

The 10th statement "The present curriculum has enough idea provided for LGS." has weighted mean score was $2.27 < 3$. This shows that the statement is not favorable. A total number of 9.09% of teacher agreed with this statement, 27.27% undecided and 63.64% teachers disagreed with this statement .This indicates that most of the teacher are in against of this statement.

Likewise 19th statement "The teacher feels more stressed but responsible and accountable to students teaching and learning in LGS in comparison to the pass-fail system." has weighted mean was $3.41 > 3$. This shows that the statement is favorable. A total number of 58.34 % of teacher agreed with this statement and 16.66% teachers undecided & 25% of teacher disagreed with this statement .This indicates that most of the teacher are favour of this statement.

Now, 22th statement "Teacher provides regular and reflective feedback on the students' assignment, examination and reduce their wash back effect." has weighted mean was $3.16 > 3$. This shows that the statement is favorable. A total number of 50

% of teacher agreed with this statement and 16.66 % teachers undecided & 33.34% of teacher disagreed with this statement .This indicates that 50% of the teacher are favour of this statement.

Likewise, 23rd statement "LGS provides opportunity to re -test to increase grade for students who secure low grade." has weighted mean was 3.75 > 3. This shows that the statement is favourable. A total number of 66.66 % of teacher agreed with this statement and 25 % teachers undecided & 8.34% of teacher disagreed with this statement .This indicates that most of the teacher are favour of this statement.

The 28th statement "Ratio of students and infrastructures in the classroom are appropriate." has weighted mean score was 3.75 > 3. This shows that the statement is favorable. A total number of 66.66 % of teacher agreed with this statement and 8.34 % teachers undecided & 25 % of teacher disagreed with this statement .This indicates that most of the teacher are favors of this statement.

Likewise, 29th statement "ICT tools in classroom helps to get better achievement or grade." has weighted mean was 4.16 > 3. This shows that the statement is favorable. A total number of 75 % of teacher agreed with this statement and 17 % teachers undecided & 8 % of teacher disagreed with this statement .This indicates that most of the teacher are favors of this statement.

In this context the researcher asked about available of infrastructure and use of ICT in school. The teacher view well accessed infrastructures but not used ICT. The infrastructure and ICT were very important to education field. In this view the teacher (A) said:

"Desk, bench and other materials are sufficient and well managed, teachers have easy access to each student, and computer classes are run by used computer but other classes running only use of without ICT."

From this view there was sufficient and well management of required infrastructure in the schools and class room. The teachers' were easily access with students but only facility for computers to computes students not used ICT in other classes. Other teachers (B) were similar view with teacher (A). The class observation of these two teachers the researcher found there was sufficient desk, bench and other infrastructure and well managed. Teacher was access to students easily. There was no use ICT to teaching learning.

Similarly, the researcher asked about challenges of letter grading system. The teachers focused on no training and confusion about LGS. The government could not provide training to teachers and other stockholders to inform about LGS. So, maximum persons are confused about LGS. They think in LGS nobody fails means everybody passes who participate in examination, but it is not in reality. In this sense the teachers (A) said:

"Government started LGS but not provide training to stakeholders. Initially District Education Office (DEO) itself confused how pass grade is, sometime said 1.6 GPA is pass and sometimes said less than 1.6 is also pass in total marks. But currently, a rule has been formed by this all teachers and official are conformed."

From this view government started LGS without provide training to stakeholders. Initially periods there were so many problems in LGS. District Education Office (DEO) itself confused what was actually pass grade. But now days a rule has formed by teachers and official are conformed.

Another teacher (B) said:

"Students may be neglect the difficult subject. Not managing the training for LGS, lack of regular supervision on school's activities and interval evaluation, lack of suggestions and feedbacks for teachers are the challenges in LGS sector."

From this view student cannot labor hard in difficult subjects and he may be neglect those subject. There was not managed of teacher training, supervision, suggestions and feedbacks on school's activities and teachers activities also.

Hence from all the above views, there was sufficient infrastructure and well managed in schools and classroom. There were some confusion about LGS and government not provided training to teachers and others stockholders about LGS. There is no regular supervision of schools activities and teachers teaching activities. There is not sufficient library and reading room in school. So, the government and other factors that are related to education should be manage suitable library and reading room in school and provide training to teacher's and stockholders for remove the confusion about LGS.

The Impacts of students towards Letter Grading System in SEE

From the data analysis, the average weightage mean of teachers responds towards LGS is 3.50. The 13 statement out of 22 were above the average weightage mean. Thus students have positive impact towards LGS. The impact of the students present below is sub –divided into the four categories viz. impact towards understanding, impact towards practice, impact towards challenge and impact towards policy.

The Impacts of students towards Understanding Letter Grading System in SEE

The following table presented the students impact towards the student's responses and corresponding mean weighted value of each statement related to the understanding of letter grading system.

Table 5: The Impacts of students towards Understanding Letter Grading System in SEE

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
1	I understand about LGS and GPA.	25	444	219	32	10	730	3.39	F
2	I support the idea of an implementation of LGS in SEE.	550	192	111	8	7	868	4.21	F
15	LGS helps to motivate students' achievement to pass/fail system.	355	248	78	30	44	755	3.46	F
18	Students' motivation is increasing after using LGS.	475	256	42	26	34	833	3.78	F
20	The students feel more comfortable in LGS rather than pass-fail system.	465	272	60	24	27	848	3.85	F
21	Replacement of LGS instead of percentage is better for all level of education.	260	284	84	58	38	724	3.32	F

From the above table, the all six statement were favorable having weighted mean score above the average. The average weighted mean score of students responds were 3.50. The table five shows that three statements out six were above the average it means that students were positive towards LGS.

The 1st statement "I understand about LGS and GPA." has weighted mean score was 3.39 >3. This shows that the statement is favorable. Most of students support this statement which indicates that most of the students are favoure of this statement.

Similarly, 2nd statement "I support the idea of an implementation of LGS in SEE." has weighted mean score was 4.21 > 3. This shows the statement is favorable. A total number of 53.4 % of student strongly agreed with this statement , 23.3 % student agreed, 17.96% undecided, 1.94% disagreed & 3.4 % of students strongly disagreed with this statement .This indicate that most of the students are in favors of this statement.

The 15th statement "LGS helps to motivate student's achievement to pass/fail system." has weighted mean score was 3.46 >3. This shows that the statement is favorable. A total number of 32.56 % of student strongly agreed with this statement ,28.44 % student agreed, 11.92% undecided, 6.88% disagreed &20.18% of students strongly disagreed with this statement .This indicate that most of the students are favors of this statement.

Now, 18th statement "Students Motivation is increasing after using LGS." has weighted mean score was 3.78 >3. This shows that the statement is favorable. A total number of 43.18 % of student strongly agreed with this statement ,29.09 % student agreed, 6.36% undecided, 5.9% disagreed &15.45% of students strongly disagreed

with this statement .This indicate that most of the students are favors of this statement.

Likewise, 20th statement "The students feel more comfortable in LGS rather than pass-fail system." and 21st statement "Replacement of LGS instead of percentage is better for all level of education." are favorable with weighted mean score was 3.85 and 3.32 respectively. This shows that the statement is favorable. Most of student (above 70%) agreed with these statement. It conclude that most of student are favors of this statement.

To validate this result the researcher conducted an interview with two students. The understanding of grading system includes the knowledge and impact on letter grading system In this context, the researcher asked about the impacts/views about letter grading system (LGS). The both students (S_1, S_2) focused on positive effeteness in education sector and encouraging for students. Student has positive concept and letter grading system. It seems to that effective in education, LGS help to encourage of students. In the connection of this view, student S_1. She said:

"I have positive concept in letter grading system. It encourages weak students to study. LGS is very effective in education sector and helps to increase literacy rate."

This view shows that the students have positive concept regarding the letter grading system. Letter grading system has helped those students who failed in previous exam and now they get chance to study their interested subject based on their grade. It encourages weak students as well. It is seen very effective in education sector and it helps to increase literacy rate in our country.

Similarly, student S_2 supported this view and said *"letter grading system means giving grade by fix nine standards A + to E according to students' ability and*

capacity in each subject". This means that grading depends on student's ability, capacity and other aspects. Similarly, the researcher asked students regarding their impact that nobody fails in LGS. Student (S_1) said *"if any student couldn't get an opportunity for further study on the basis of grade, he is considered as failed."* (S_2) also agreed with S_1. They said that *"although there was no failure system in grading system but those students who get D and E can't get chance to get admission in higher level. So, they are considered as failed students."* From above views it was concluded that there was no discrimination in words but in sense it was since anybody gets D or E grades then he/she can't get an opportunity to study on higher education. In this condition these students are like failure.

Also the researcher asked the students which system is better LGS or percentage? The two students (S_1 and S_2) had positive on LGS. They said:

"LGS is better than pass-fail because it categories students grade in the gap of every ten marks. If the students get above 90 numbers it categorized A+." From this view LGS is categories students' grade in the gap of every ten marks. If any student gets 91 marks and other gets 98 marks in any subject, then they have same grade called A+. Thus the students liked LGS than pass fail system.

Hence from above interpretation, the understanding level of all students of statements was found favorable. And participated students in an interview had also favorable result in letter grading system (LGS). They had positive concept in LGS but some students had not more information about LGS, these students need to give knowledge about this. All students agreed as nobody fails in LGS means not all passed. If any student gets not chance to study of higher level due to this grade in result then these students are like a fail students. Some students are support of new

letter grading system because in grading system categorized student's grade in the gap of every ten marks. If the students get above 90 (91, 92,… 100), then it is categorized as A+ grade. Similarly, above 80 to 90 (81, 82,… 90) categorized as A grade and so on. Because of same grade the students can't feel humiliation in LGS but they might have different grade point average numbers. But some students supported the old pass fail or percentage system because in pass fail or percentage system students can show and see their marks and position easily.

Impacts of Students Towards practice Letter Grading System.

The following table presented the students impact towards the student's responses and corresponding mean weighted value of each statement related to the practice of letter grading system.

Table 6: Impacts of Students Towards practice Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
3	LGS is important criterion for judging students achievement.	540	240	120	14	5	919	4.17	F
4	LGS has positive effect in students' academic achievements.	435	392	57	20	6	910	4.13	F
7	Teacher facilitates and creates an environment for group discussion for students about LGS.	95	200	105	110	57	567	2.62	NF

11	LGS is practiced in internal evaluation of students' achievement.	90	120	126	128	62	526	2.43	NF
12	LGS is same as pass-fail system or numerical system.	160	168	81	150	44	603	2.74	NF
16	LGS increases overall performance of students than pass-fail system.	275	272	75	50	47	719	3.26	F
19	LGS helps to decrease the dropout rate of students.	335	244	72	86	23	760	3.48	F
22	ICT tools in classroom are better for achieving good grade.	700	224	18	22	7	971	4.41	F

From the above table, only five statements were favorable having weighted mean score above the average. The average weighted mean score of students responds were 3.40. The table six shows that five statements out eight were above the average it means that students were positive towards LGS.

The 3rd statement "LGS is important criterion for judging students achievement." and 4th statement "LGS has positive effect in students' academic achievement." Has weighted mean score was 4.17 and 4.13 respectively. Which shows both statement are favorable and above 70% of students are agreed on these statement? It conclude that majority of students support the these statement.

Now, 7th statement "Teacher facilitates and creates an environment for group discussion for students about LGS." has weighted mean score was 2.61 . This shows that the statement is not favorable .A total number of 8.79 % of student strongly agreed with this statement, 23.14 % student agreed, 16.35% undecided, 25.46% disagreed &26.38% of students strongly disagreed with this statement .This indicate that most of the students are in against of this statement.

Similarly, 11th statement "LGS is practiced in internal evaluation of student's achievement." has weighted mean score was 2.43 . This shows that the statement is not favorable. A total number of 8.33 % of student strongly agreed with this statement ,13.88 % student agreed, 19.44% undecided, 29.62% disagreed &28.7% of students strongly disagreed with this statement .This indicate that most of the students are in against of this statement.

Likewise, 12th statement "LGS is same as pass- fail system or numerical system." has weighted mean score was 2.74 . This shows that the statement is non-favorable. A total number of 14.54 % of student strongly agreed with this statement ,19.09 % student agreed, 12.27% undecided, 34.09% disagreed &20% of students strongly disagreed with this statement .This indicate that most of the students are in against of this statement.

The 16th of statement "LGS increase overall performance of the students than pass fail -system." has weighted mean score was 3.26 >3. This shows that the statement is favorable. A total number of 25 % of student strongly agreed with this statement ,30.9 % student agreed, 11.36% undecided, 11.36% disagreed &21.36% of students strongly disagreed with this statement .This indicate that most of the students are favors of this statement.

Similarly, 19th statement "LGS helps to decrease the dropout rate of students." has weighted mean was 3.48. This shows that the statement is favorable. A total number of 30.78 % of student strongly agreed with this statement ,27.98 % student agreed, 11% undecided, 19.72% disagreed &10.55% of students strongly disagreed with this statement .This indicate that most of the students are favors of this statement.

The 22nd statement "ICT tools in classroom are better for achieving good grade." has weighted mean was 4.41 . This shows that the statement is favorable. A total number of 63.63 % of student strongly agreed with this statement ,25.45 % student agreed, 2.72% undecided, 5% disagreed &3.18% of students strongly disagreed with this statement .This indicate that most of the students are favour of this statement.

To verify this information the researcher conducted an interview with students. Practice of letter grading system (LGS) means implementation of different activities and program related to LGS such as home environment, family support, teacher students and student student's relationship, learning environment etc. In this context, the researcher asked about home environment. The student's views positive family supports. In this, the students (S_1) said that *"I have positive home environment for study, full family support and high priority in education."* The other students (S_2) also support this view. From this view the family of students is full supported. Students were easily get practice and other materials to learn mathematics. Family member think that they should go in education sector high priority given in education, family provide a lot of time to learn mathematics.

Also the researcher asked about the nature of teacher and condition of homework and other tasks in mathematics. In this view student (S_1) Said that *"teacher is supported and helpful, encourage also to study and gives homework and class work regularly."* The student (S_2) said *"teacher teach clear way. He helps us in different problems and gives an opportunity to teach classmates as well."* In the same view of other students as above. From this view the teachers were helpful nature and encouraged to students for learnt and give homework, class work regularly also provided an opportunity to class presentation.

Again the researcher asked about regularity in school and mathematics class. The students focused on regularity. In this view, all the students have same impact they said except any urgent work we always go to school. This shows that students were not absent without any important reason. Again the researcher asked about satisfied with mathematics teacher. All the students have same view; they said teacher is helpful nature and he teaches difficult exercises in easy way. It means that they satisfied with their teachers.

Hence from above interpretations, the students were favor on practice of LGS. And students' participant in an interview had also favorable on practice of LGS. They have positive home environment and fully family support on their study. The students were satisfied on their teachers. The teachers were helpful nature and supported to students and encouraged. They give homework and class work to students regularly and helped in difficult problems and provided an opportunity to class presentation. The students were regularity in school except any urgent work.

Impacts of Students Towards Policy of Letter Grading System

The following table presented the students impact towards the student's responses and corresponding mean weighted value of each statement related to the policy of letter grading system.

Table 7: Impacts of Students Towards Policy of Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
8	LGS is better than number system/ pass-fail system.	350	212	108	38	39	747	3.44	F
10	Orientation is sufficient for understanding LGS and GPA.	120	120	165	92	65	562	2.55	NF
13	Students are made good GPA orientation in LGS than pass-fail system.	380	308	57	30	33	808	3.67	F
14	There is a clear polices and guidelines to implement LGS.	45	104	357	60	30	596	2.78	NF
17	LGS provides an opportunity to re-test to increase grades for low grade secure students.	685	280	6	2	9	982	4.48	F

From the above table, only three statements were favorable having weighted mean score above the average. The average weighted mean score of students responds

were 3.38. The table seven shows that three statements out five were above the average it means that students were positive towards LGS.

Now, 8th statement "LGS is better than number system/pass fail system." has weighted mean score was 3.44 . This shows that the statement is favorable. A total number of 32.25 % of student strongly agreed with this statement ,24.42 % student agreed, 16.58% undecided, 8.75% disagreed &17.97% of students strongly disagreed with this statement .This indicate that most of the students are in favors of this statement.

Similarly, 10th statement "Orientation is sufficient for understanding LGS and GPA." has weighted mean was $2.55 < 3$. This shows that the statement is non-favorable. A total number of 11.11 % of student strongly agreed with this statement ,13.88 % student agreed, 25.46% undecided, 21.29% disagreed &30.09% of students strongly disagreed with this statement .This indicate that most of the students are in against of this statement.

The, 13th statement "Students are secured good GPA in LGS than pass fail System." has weighted mean score was $3.67 > 3$. This shows that the statement is favorable. A total number of 34.54 % of student strongly agreed with this statement ,35 % student agreed, 8.63% undecided, 6.81% disagreed &15% of students strongly disagreed with this statement .This indicate that most of the students are in favour of this statement.

Similarly, 14th statement "There is a clear polices and guidelines to implement LGS." has weighted mean score was $2.78 < 3$. This shows that the statement is non – favorable. A total number of 4.02 % of student strongly agreed with this statement

,12.14 % student agreed, 55.6% undecided, 14.01% disagreed &14.01% of students strongly disagreed with this statement .This indicate that most of the students are undecided to this statement.

Likewise, 17th statement "LGS provides an opportunity to re- test to increase grades for low grade secure students." has weighted mean score was 4.48 >3. This shows that the statement is favorable. A total number of 62.55 % of student strongly agreed with this statement ,31.96 % student agreed, 0.91% undecided, 0.04% disagreed &4.1% of students strongly disagreed with this statement .This indicate that most of the students are favors of this statement.

To verify above result the researcher held the interview with student about policy of LGS .In this regard teacher (S$_1$ and S$_2$) said "*we are unknown about marking scheme of this system* " From these view we can conclude that the policy maker has not circulated any information to the students .

Impacts of Students Towards Challenges Letter Grading System

The following table presented the students impact towards the student's responses and corresponding mean weighted value of each statement related to the challenges of letter grading system.

Table : 8 Impacts of Students Towards Challenges Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
5	Grades are depending on student's critical thinking skill, collaborative learning, and writing ability.	375	404	54	26	7	866	4.04	F
6	High grades can motivate the students.	645	200	33	30	14	922	4.21	F
9	I can calculate LGS and GPA.	155	132	150	140	36	613	2.78	NF

From the above table, two statements were favorable having weighted mean score above the average. The average weighted mean score of students responds challenges were 3.67. The table eight shows that two statements out three were above the average it means that students were positive towards LGS.

Now, 5th statement "Grades are depending on student's critical thinking skill, collaborative learning, and writing ability." has weighted mean score was 4.04 > 3. This shows that the statement is favorable .A total number of 35.04 % of student strongly agreed with this statement ,47.19 % student agreed, 8.41% undecided, 6.07% disagreed & 3.27% of students strongly disagreed with this statement .This indicate that most of the students are in favour of this statement.

Similarly ,6th statement "High grade can motivate the students." has weighted mean was 4.21 > 3. This shows that the statement is favorable. A total number of 58.9 % of student strongly agreed with this statement ,22.83 % student agreed, 5.02%

undecided, 6.84% disagreed & 6.39% of students strongly disagreed with this statement .This indicate that most of the students are in favour of this statement.

Likewise, 9th statement "I can calculate LGS and GPA." has weighted mean was 2.78. This shows that the statement is not favorable. A total number of 14.09 % of student strongly agreed with this statement ,15 % student agreed, 22.72% undecided, 31.81% disagreed &16.36% of students strongly disagreed with this statement .This indicate that most of the students are in against of this statement.

In this context, the researcher asked about of facility of infrastructure and use of ICT in classroom. Both the students have same view on this. They said *"there is no access of ICT devices because this we have to depend only on the text book"* This means that there is need of provider of ICT classes in the school. Similarly researcher asked about the challenge of grading system but nobody told any things. It shows that the students' has no idea about challenges of grading system.

Impacts of parents towards LGS in SEE

From the data analysis, the average weightage mean of teachers responds towards LGS is 3. The 4 statement out of 10 were above the average weightage mean. Thus parents has not- positive impact towards LGS. The impact of the parents present below is sub –divided into the four categories viz. impact towards understanding, impact towards practice, impact towards challenge and impact towards policy.

Impacts of Parents Towards Understanding of Letter Grading System

The following table presented the students impact towards the parents responses and corresponding mean weighted value of each statement related to the understanding of letter grading system.

Table 9: Impacts of Parents Towards Understanding of Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
1	I have listen about LGS and GPA.	5	8	3	0	0	16	3.3	F
2	I understand about LGS and GPA.	0	6	15	8	0	29	2.9	NF
7	I know the meaning and process of letter using in LGS.	1	6	9	8	5	29	2.9	NF

From the above table, one statement out of three was favorable with weighted mean more than three. The average weight mean of the parents responded towards understanding towards LGS were 3.03. It conclude that parents were not favors on understanding LGS. Also all statement had disagreed percentages more than agree percentages. This concludes that there was not positive impact of parents towards LGS.

The 1st statement "I have Listen about LGS and GPA." has weighted mean score was 3.3 > 2.55. This shows that the statement is favorable. A total number of 50 % of parents were strongly agreed with this statement, 40 % parents were agreed and only 10 % parents were undecided with this statement. This concludes that 90% parents herd about LGS.

Similarly, 2nd statement "I understand about LGS and GPA." and 7th statement "I know the meaning and process of letter using in LGS."The weighted mean score of both statement was 2.9. This shows that the statement is non –favorable. A total number of 30 % of parents were agreed with these statements, 50 % parents were

undecided and only 20 % parents were disagreed with this statement. This concludes that 50% parents were unknown about LGS.

In this context, the researcher asked about of understanding of LGS the parents (P_1) said "*I have heard about LGS but not understood about it clearly .In my opinion it is the system which shows the students achievements in grade. In this system no one gets failed*" and parents (P_2) said "*I awareness about LGS but not understood about it clearly .In my opinion LGS is that types of system in which the achievement of the student shows in grade point and letter*" This means that there not sufficient knowledge of parents towards LGS.

Impacts of Parents Towards Practice of Letter Grading System

The following table presented the parents impact towards the parents responses and corresponding mean weighted value of each statement related to the practice of letter grading system.

Table 10: Impacts of Parents Towards Practice of Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
4	Student did hard work after implemented LGS.	0	6	0	20	10	36	3.6	F
6	Grading system is different from Number/percentage system.	3	10	0	4	5	22	3.3	F
8	I know about practices of LGS in evaluation system.	1	6	6	8	10	31	2.7	NF

From the above table, two statements out of three were favorable with weighted mean more than three. The average weight mean of the parents responded towards understanding towards LGS were 3.2. It conclude that parents were favors on practice of LGS. Also all statement had agreed percentages more than disagree percentages. This concludes that there was positive impact of parents towards LGS.

Now, 4th statement "Student did hard work after implemented LGS." and 6th statement "Grading system is different from number/percentages system." are favorable with weighted mean score was 3.6 and 3.3. Majority s of parents (above 60%) was agreed with these statements. So, it concludes that most of parents were in favors of these statements.

Similarly, 8th statement "I know about practices of LGS in evaluation system." has weighted mean was 2.7 < 3. This shows that the statement is non-favorable. A total of 10 % of parents were strongly agreed with this statement, 30 % parents were agreed, 20% parents were undecided, 20% parents were disagree and 10 % parents were strongly disagreed with this statement. This concludes that most of parents were against of this statement.

In this context, the researcher asked about of Practice of LGS. The parents (p_1) said "*In this system teacher seems less responsible towards their teaching but they focused on getting their salary*" and similar view puts by parents (P_2) said " *After implemented letter grading system studying habit of students were totally decreased due to no fail system.*" Based on this information we can say that due to misconception the students and teacher are not responsible towards their duty.

Impacts of Parents Towards Policy of Letter Grading System

The following table presented the parents impact towards the parents responses and corresponding mean weighted value of each statement related to the policy of letter grading system.

Table 11: Impacts of Parents Towards Policy of Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
3	Newly introduced LGS is better than old pass fail system	7	0	0	8	5	20	2	NF
9	The students' performance is better after using LGS.	2	10	0	12	0	24	3.4	F

From the above table, one statement out of two was favorable with weighted mean more than three. The average weight mean of the parents responded towards policy towards LGS were 2.7. It conclude that parents were not favors on policy of LGS. This concludes that there was fifty percentages parents were positive towards policy of LGS.

Now ,3rd statement "Newly introduced LGS is better than old pass fail system." has weighted mean score was $2 < 3$. This shows that the statement is non –favorable. A total number of 70 % of parents were strongly disagreed with this statement, 20 % parents were disagreed and only 10 % parents were agreed with this statement. This concludes that most of parents were against of this statement.

Likewise, 9th statement "The students' performance is better after using LGS." Has weighted mean score was 3.4 >3. This shows that the statement is favorable. A

total number of 20 % of parents were strongly agreed with this statement, 50 %

parents were agreed and 30% parents were disagreed with this statement. This

conclude that most of parents in favour of this statement.

To verify above result the researcher held the interview teacher about policy of

LGS .In this regard parents (p_1 and p_2) said "*we have just listen about LGS but we are*

unknown about its policy " From these view we can conclude that the policy maker

has initiated the program without any orientation to the parents policy is

implemented.

Impacts of Parents Towards challenges of Letter Grading System

The following table presented the parents impact towards the parents

responses and corresponding mean weighted value of each statement related to the

challenges of letter grading system.

Table 12: Impacts of Parents Towards challenges of Letter Grading System

S.N	Statements	SA	A	U	D	SD	Total	Mean	Result
5	LGS is not better than Number/percentage system.	3	6	3	8	5	25	3.5	F
10	Students' behavior is changed positively after implementing LGS on their evaluation system.	2	12	0	4	5	23	2.3	NF

From the above table, one statement out of two was favorable with weighted

mean more than three. The average weight mean of the parents responded towards

challenges towards LGS were 2.9. It conclude that parents were not favors on policy

of LGS. This concludes that there was fifty percentages parents were positive towards policy of LGS.

Now, 5th statement "LGS is not better than number/ percentages system." has weighted mean was 3.5 > 3. This shows that the statement is favorable. A total number of 30 % of parents were strongly agreed with this statement, 30 % parents were agreed and 10 % parents were undecided, 20% parents were disagree& 10% parents were strongly disagreed with this statement. This concludes that most of parents were favors of this statement.

Similarly, 10th statement "Students behavior is changed positively after implementing LGS on their evaluation system." has weighted mean score was 2.3 < 3. This shows that the statement is non -favorable. A total of 20 % of parents were strongly agreed with this statement, 20 % parents were agreed, 40% parents were disagreed and 10% parents were strongly disagreed with this statement. This conclude that most of parents against of this statement.

Comparative analysis of mathematics teacher and students towards LGS

The second objective of the study was to compare the impact secondary level mathematics teacher and students towards Letter grading system. In order to achieve the objective, the researcher analyzed the data of teacher and students impact clearly which is presented below.

Comparison	Sample(N)	Mean	S.D	d.f	t-value	Decision
Teacher	12	3.50	0.56	230	0.33	Non-Significant
Students	220	3.44	0.62			

The analysis of the information mentioned in the above table represents there were 12 teachers, 220 students as sample. The weighted mean of response score of mathematics teachers is 3.50 and standard deviation 0.56. Similarly the weighted mean of response score of students is 3.44 and standard deviation 0.62. The difference mean views score between these two groups is 0.06. The calculated t-value 1.96 at 0.05 level of significance. The calculated t-value with respect to the difference of mean view score is 0.33 which is less than tabulated value 1.96 at 0.05 level of significance. This shows that the calculated t-value is less than tabulated value there for the research hypothesis is rejected. Thus it concludes that impact of mathematics teacher is better than impact of students towards letter grading system in secondary level examination.

Comparative analysis of Mathematics teacher and parents towards letter grading system

Comparison	Sample(N)	Mean	S.D	d.f	t-value	Decision
Teacher	12	3.50	0.56			
				20	2.21	Significant
Parents	10	2.95	0.61			

The analysis of the information mentioned in the above table represents there were 12 teachers, 10 students as sample. The weighted mean of response score of mathematics teachers is 3.50 and standard deviation 0.56. Similarly the weighted mean of response score of parents 2.95 and standard deviation 0.61. The difference mean views score between these two groups is 0.55. The calculated t-value 1.96 at 0.05 level of significance. The calculated t-value with respect to the difference of

mean view score is 2.21 which is greater than tabulated value 1.96 at 0.05 level of significance. This shows that the calculated t-value is greater than tabulated value there for the research hypothesis is accepted. Thus it concludes that impact of mathematics teacher is better than impact of parents towards letter grading system in secondary level examination

Chapter V

SUMMARY, FINDING, CONCLUSION AND RECOMMENDATION

After analysis and interpretation of collected data as per the design of study and the research question, summary, findings, conclusion and recommendation have been presented. In this chapter an attempt has been made to derive important conclusions. The first section of this chapter presents summary of the study. Second section presents the major finding of the study. Third section presents conclusion that has been derived on the basis of the findings of the study. Finally, some implications for policy, management and administration including further study have been recommended.

Summary of the Study

The present study was concerned with the impacts of mathematics teacher, students and parents towards letter grading system in SEE examination. It was assumed that the results of this study would be constructive suggestion for the improvement of the recently run letter grading system to make it effectively run to make it more result oriented. The research design of this study was survey and mixed in nature. The main objective of this study were 1) To find the impact of mathematics teacher, students and parents towards letter grading system in SEE,2) To compare the impacts of students and mathematics teachers towards letter grading system in SEE.

To achieve above objective the researcher conducted randomly chosen eight government secondary schools (See on Appendix J) from Parshuram Municipalities of Dadeldhura district, the researcher selected twenty-eight students and one mathematics teacher from each schools. So, sample size of students and mathematics teachers were 224 and 8 respectively. One set of attitude scale and interview guideline

were the main tools of the study. The five point Likert scale was adopted and respondent were asked to indicate their options with a tick marks. The data collected were analyzed by using the following statistical tools: Mean weightage was used to find whether the responses of mathematics teachers, student and parents are favorable or non favorable towards LGS. The percentage of responses was used to find the attitude of students and mathematics teachers towards LGS and t-test at 0.05 level of significance used to compare the attitude of students and mathematics teachers towards LGS.

Similarly, Interview was conducted in two mathematics teachers, two students and two parents with the help of interview guideline (See on Appendix K, L and M). The interview gets personal thoughts, opinion, view, practice, opportunities and challenge on LGS in SEE.

Findings of the Study

From the above collected data analysis the findings were as follows:

- There was a positive opinion of secondary level mathematics teacher towards LGS in SEE

- Training and orientation programs were not sufficient for understanding GPA and LGS.

- LGS is not practiced in internal evaluation and LGS was also need in internal evaluation.

- LGS was different from the numerical system/ percentages system.

- LGS gives opportunity to re –test for increasing grade, who get low grade.

- Most of teacher, students and parents have misconception, misunderstanding and illusions about LGS due to the lack of knowledge and clear understanding about LGS.

- The parents were not satisfied with LGS.

- Due to the Letter grading system most of the students reading habit is deterioration rating day by day.

- They support the idea of an implementation of idea of LGS in SEE and they would like to learn more about it.

- Students drop out rate were decreased and weak students also get the level clear certificates.

- It provides a golden chance for those students who have poor performance in particular subject but excellent on other subject.

- The weighted mean score of the students' impact towards LGS was found higher than teacher and parents.

Conclusion

On the basis of finding presented in the previous section the following conclusion was drawn about the impact of mathematics teachers, students and parents towards LGS in SEE.

It is widely understood new concept that the grading system is world widely used. It is a relative concept that the absolute. It increases literacy rate. Though, LGS is not widely practiced in internal evaluation. Dropout students were decreased and they got chance of being librated. There is not much discriminated system on the basis of their obtained marks. Lack of training, regular supervision and feedback of teachers activities are the challenging part of this process.

Recommendations for Further Study

The conclusion of this study may not generalize to all students and mathematics teachers due to limitation contained in the study. On the basis of the study the following recommendation have been given:

- To find attitude of teachers and students towards LGS in lower and upper class of SEE.

- To find understanding of parents towards LGS in SEE.

- To compare between public and private schools about LGS.

- To compare the student's performance between LGS and pass fail system.

Recommendations for the Educational Implication

The results of this research may be used in following aspects:

- To provide knowledge about grading system to students and teachers.

- To provide training and orientation program about grading system for teachers and other related stakeholders.

- To provide regular supervision, suggestions and feedback for teachers' activities in their teaching learning.

- To use ICT in every classes and well manage library and reading room in schools and also infrastructures.

References

Acharya, J. (2017). *Attitude of secondary school level students and teachers towards Letter grading system in Kathmandu district.* An unpublished Master degree thesis, T.U, Kathmandu.

Bhattari, A. (2016). HSEB grading system in +2. *The Himalayan post.*

Dancey, W.M. (1986). *Assessment of teachers grading practices.* Master Degree Thesis, University of British Columbia.

Graduate in Bangladesh. Crossing the border: *International journal of interdisciplinary studies.* Volume 2; Number 1; 15 July 2015.

J.B. Rana, S.P. (2016). *Letter grading system: Implications and its impact in Higher Education.* Kathmandu: T. U.

Karim, J & Hossain, J (2015). *Grading controversies in the assessment of university.*

Khanal, P. (2072). *Research methodology in education.* Kathmandu: Sunlight Publication.

Kumar, R.(2011). *Research methodology.* New Delhi: Sage Publication Pvt. Ltd.

Morgan, Tallman & William (2007). *Student & faculty views of plus-minus grading system.*

Niroula, C. (2015, April). Reforming SLC grading system. *The Rising Nepal.*

Pandit,R.P.& Bhattari, L.N. (2014).*Mathematical statistics.* Kathmandu: Indira Pandit.

Paneru, T.N. (2016). *Letter grading system: Perceptual difference and students motivation to learn mathematics.* An unpublished master degree thesis, Department of Mathematics Education, T.U., Kirtipur.

Schneider & Hutt (2013). Making the grade: A history of A-F Marking scheme. *Journal of curriculum studies.*

Sodhi, P. k. (2016). A study of causes of failure in mathematics at secondary stage with Special reference to Punjab state. *Gain Jyotie Journal*, 6, 1-13.

Thapa Magar, L.B. (2017). *Opinion of mathematics teacher and students towards latter Grading system.* An unpublished Master degree thesis, T. U, Kathmandu.

Appendix –A

Questionnaire for Teachers

Teachers Background Information

Name: Qualification: Address:

Institution: Gender: Age:

You are requested to tick (√) to the alternatives that best indicate your response.

Where, SA= Strongly Agree, A=Agree, U=Undecided, D=Disagree and SD= Strongly

Disagree.

S.N	Statements	SA	A	U	D	SD
1	I understand about LGS and GPA.					
2	I understand how to provide letter grade and GPA.					
3	LGS is an improvement criteria for measurement of the students' progress.					
4	LGS has positive effect in students' academic achievement.					
5	Grading includes on critical thinking, collaborative learning and writing ability of the students.					
6	High grades can motivate students to learn.					
7	LGS reflects the influence of teacher's teaching activity and responsibility.					
8	Training is sufficient for teachers and stockholders about understanding LGS and GPA.					
9	Orientation programmers are not sufficient for understanding LGS and GPA					

10	The present curriculum has enough idea provided for LGS					
11	LGS should be practiced for internal evaluation of students' achievement.					
12	The course can be completed within the allocated time.					
13	In LGS, the assessment and overall evaluation is transparent.					
14	Students fills good in GPA system in LGS than pass fail system.					
15	LGS is same as pass- fail system or numerical system.					
16	Teacher, students, and parents are satisfied to using LGS in SEE.					
17	There is clear polices and guidelines to implement LGS.					
18	LGS helps to improve student's achievement than pass/ fail system.					
19	The teacher feels more stressed but responsible and accountable to students teaching and learning in LGS in comparison to the pass-fail system.					
20	LGS helps to increase overall performance of students than the pass fail system.					
21	The management provides pre –training and dissemination programmers for the teachers.					
22	Teacher provides regular and reflective feedback on the students' assignment, examination and reduce their wash back effect.					

23	LGS provides opportunity to re -test to increase grade for students who secure low grade.					
24	Students' motivation is increasing after using LGS.					
25	LGS helps to decrease the dropout rate of the students.					
26	Teacher has better understanding of his teaching styles by using LGS.					
27	Student's achievements affected by physical facilities such as: classroom, seminar hall, counseling room, teacher's cabin, lab room and so on.					
28	Ratio of students and infrastructures in the classroom are appropriate.					
29	ICT tools in classroom helps to get better achievement or grade.					
30	The facilities of library and reading hall for students, as well as teachers, are well managed.					
31	Replacement of LGS instead of percentage is better for all level of education.					

Questionnaire for Students

Students' Background Information

Name: Class:

Institution: Gender:

Address:

You are requested to tick (√) to the alternatives that best indicate your response.

Where, SA= Strongly Agree, A=Agree, U=Undecided, D=Disagree and SD= Strongly

Disagree.

S.N	Statements	SA	A	U	D	SD
1	I understand about LGS and GPA.					
2	I support the idea of an implementation of LGS in SEE.					
3	LGS is important criterion for judging students achievement.					
4	LGS has positive effect in students' academic achievements.					
5	Grades are depending on student's critical thinking skill, collaborative learning, and writing ability.					
6	High grades can motivate the students.					
7	Teacher facilitates and creates an environment for group discussion for students about LGS.					
8	LGS is better than number system/ pass-fail system.					
9	I can calculate LGS and GPA.					

10	Orientation is sufficient for understanding LGS and GPA.					
11	LGS is practiced in internal evaluation of students' achievement.					
12	LGS is same as pass-fail system or numerical system.					
13	Students are made good GPA orientation in LGS than pass-fail system.					
14	There is a clear polices and guidelines to implement LGS.					
15	LGS helps to motivate students' achievement to pass/fail system.					
16	LGS increases overall performance of students than pass-fail system.					
17	LGS provides an opportunity to re-test to increase grades for low grade secure students.					
18	Students' motivation is increasing after using LGS.					
19	LGS helps to decrease the dropout rate of students.					
20	The students feel more comfortable in LGS rather than pass-fail system.					
21	Replacement of LGS instead of percentage is better for all level of education.					
22	ICT tools in classroom are better for achieving good grade.					

Appendix: C

Questionnaire for Parents

Parents' Background Information

Name: Address:

Gender: Qualification:

You are requested to tick (√) to the alternatives that best indicate your response.

Where, Please give tick mark (√) which you feel the best option where, SA= Strongly

Agree, A=Agree, U=Undecided, D=Disagree and SD= Strongly Disagree.

S.N	Statements	SA	A	U	D	SD
1	I have listen about LGS and GPA.					
2	I understand about LGS and GPA.					
3	Newly introduced LGS is better than old pass fail system					
4	Student did hard work after implemented LGS.					
5	LGS is not better than Number/percentage system.					
6	Grading system is different from Number/percentage system.					
7	I know the meaning and process of letter using in LGS.					
8	I know about practices of LGS in evaluation system.					
9	The students' performance is better after using LGS.					
10	Students' behavior is changed positively after implementing LGS on their evaluation system.					

Impact Score of Mathematics Teacher

S.N	Statements	SA	A	U	D	SD	Total
1	I understand about LGS and GPA.	4	7	1	0	0	12
2	I understand how to provide letter grade and GPA.	2	4	4	2	0	12
3	LGS is an improvement criteria for measurement of the students' progress.	4	6	2	0	0	12
4	LGS has positive effect in students' academic achievement.	2	5	2	3	0	12
5	Grading includes on critical thinking, collaborative learning and writing ability of the students.	1	8	0	2	1	12
6	High grades can motivate students to learn.	5	4	2	0	0	11
7	LGS reflects the influence of teacher's teaching activity and responsibility.	4	7	1	0	0	12
8	Training is sufficient for teachers and stockholders about understanding LGS and GPA.	4	2	2	0	4	12
9	Orientation programmers are not sufficient for understanding LGS and GPA	2	5	2	1	1	11
10	The present curriculum has enough idea provided for LGS	0	1	3	5	2	11
11	LGS should be practiced for internal	0	7	2	1	2	12

	evaluation of students' achievement.						
12	The course can be completed within the allocated time.	3	3	2	2	1	11
13	In LGS, the assessment and overall evaluation is transparent.	2	3	3	3	0	11
14	Students fills good in GPA system in LGS than pass fail system.	3	3	0	4	1	11
15	LGS is same as pass- fail system or numerical system.	3	1	2	6	0	12
16	Teacher, students, and parents are satisfied to using LGS in SEE.	1	1	3	5	1	11
17	There is clear polices and guidelines to implement LGS.	2	0	1	7	2	12
18	LGS helps to improve student's achievement than pass/ fail system.	2	7	2	0	1	12
19	The teacher feels more stressed but responsible and accountable to students teaching and learning in LGS in comparison to the pass-fail system.	3	4	2	1	2	12
20	LGS helps to increase overall performance of students than the pass fail system.	2	8	1	1	0	12
21	The management provides pre –training and dissemination programmers for the teachers.	3	3	2	1	3	12
22	Teacher provides regular and reflective	1	5	2	3	1	12

	feedback on the students' assignment, examination and reduces their wash back effect.					
23	LGS provides opportunity to re -test to increase grade for students who secure low grade.	2	6	3	1	0	12
24	Students' motivation is increasing after using LGS.	2	5	2	1	0	10
25	LGS helps to decrease the dropout rate of the students.	2	4	2	3	0	11
26	Teacher has better understanding of his teaching styles by using LGS.	1	9	2	0	0	12
27	Student's achievements affected by physical facilities such as: classroom, seminar hall, counseling room, teacher's cabin, lab room and so on.	4	4	1	3	0	12
28	Ratio of students and infrastructures in the classroom are appropriate.	3	5	1	2	1	12
29	ICT tools in classroom helps to get better achievement or grade.	6	3	2	1	0	12
30	The facilities of library and reading hall for students, as well as teachers, are well managed.	4	5	1	2	0	12
31	Replacement of LGS instead of percentage is better for all level of education.	1	3	5	2	1	12

Appendix-E

Impact Score of students

S.N	Statements	SA	A	U	D	SD	Total
1	I understand about LGS and GPA.	5	111	73	16	10	215
2	I support the idea of an implementation of LGS in SEE.	110	48	37	4	7	206
3	LGS is important criterion for judging students achievement.	108	60	40	7	5	220
4	LGS has positive effect in students' academic achievements.	87	98	19	10	6	220
5	Grades are depending on student's critical thinking skill, collaborative learning, and writing ability.	75	101	18	13	7	214
6	High grades can motivate the students.	129	50	11	15	14	219
7	Teacher facilitates and creates an environment for group discussion for students about LGS.	19	50	35	55	57	216
8	LGS is better than number system/ pass-fail system.	70	53	36	19	39	217
9	I can calculate LGS and GPA.	31	33	50	70	36	220
10	Orientation is sufficient for understanding LGS and GPA.	24	30	55	46	65	216
11	LGS is practiced in internal evaluation of students' achievement.	18	30	42	64	62	216

12	LGS is same as pass-fail system or numerical system.	32	42	27	75	44	220
13	Students are made good GPA orientation in LGS than pass-fail system.	76	77	19	15	33	220
14	There is a clear polices and guidelines to implement LGS.	9	26	119	30	30	214
15	LGS helps to motivate students' achievement to pass/fail system.	71	62	26	15	44	218
16	LGS increases overall performance of students than pass-fail system.	55	68	25	25	47	220
17	LGS provides an opportunity to re-test to increase grades for low grade secure students.	137	70	2	1	9	219
18	Students' motivation is increasing after using LGS.	95	64	14	13	34	220
19	LGS helps to decrease the dropout rate of students.	67	61	24	43	23	218
20	The students feel more comfortable in LGS rather than pass-fail system.	93	68	20	12	27	220
21	Replacement of LGS instead of percentage is better for all level of education.	52	71	28	29	38	218
22	ICT tools in classroom are better for achieving good grade.	140	56	6	11	7	220

Appendix-F

Impact Score of Parents

S.N	Statements	SA	A	U	D	SD	Total
1	I have listen about LGS and GPA.	5	4	1	0	0	10
2	I understand about LGS and GPA.	0	3	5	2	0	10
3	Newly introduced LGS is better than old pass fail system	7	0	0	2	1	10
4	Student did hard work after implemented LGS.	0	3	0	5	2	10
5	LGS is not better than Number/percentage system.	3	3	1	2	1	10
6	Grading system is different from Number/percentage system.	3	5	0	1	1	10
7	I know the meaning and process of letter using in LGS.	1	3	3	2	1	10
8	I know about practices of LGS in evaluation system.	1	3	2	2	2	10
9	The students' performance is better after using LGS.	2	5	0	3	0	10
10	Students' behavior is changed positively after implementing LGS on their evaluation system.	2	6	0	1	1	10

Appendix –G

Weighted Mean of impact score of Mathematics teacher

S.N	Statements	SA	A	U	D	SD	Total	Weighted Mean
1	I understand about LGS and GPA.	20	28	3	0	0	51	4.25
2	I understand how to provide letter grade and GPA.	10	16	12	8	0	46	3.83
3	LGS is an improvement criteria for measurement of the students' progress.	20	24	6	0	0	50	4.16
4	LGS has positive effect in students' academic achievement.	10	20	6	6	0	42	3.5
5	Grading includes on critical thinking, collaborative learning and writing ability of the students.	5	16	0	4	1	26	3.15
6	High grades can motivate students to learn.	25	16	6	0	0	47	4.27
7	LGS reflects the influence of teacher's teaching activity and responsibility.	20	28	3	0	0	51	4.25
8	Training is sufficient for teachers and stockholders about understanding LGS and GPA.	20	8	6	0	4	38	3.16

9	Orientation programmers are not sufficient for understanding LGS and GPA	2	10	6	4	5	27	3.02
10	The present curriculum has enough idea provided for LGS	0	4	9	10	2	25	2.27
11	LGS should be practiced for internal evaluation of students' achievement.	0	28	6	2	2	38	3.16
12	The course can be completed within the allocated time.	15	12	6	4	1	38	3.45
13	In LGS, the assessment and overall evaluation is transparent.	10	12	9	6	0	37	2.36
14	Students fills good in GPA system in LGS than pass fail system.	15	12	0	8	1	36	3.27
15	LGS is same as pass- fail system or numerical system.	15	4	6	12	0	37	2.67
16	Teacher, students, and parents are satisfied to using LGS in SEE.	5	4	9	10	1	29	2.63
17	There is clear polices and guidelines to implement LGS.	10	0	3	14	2	29	2.41
18	LGS helps to improve student's achievement than pass/ fail system.	10	28	6	0	1	45	3.75

19	The teacher feels more stressed but responsible and accountable to students teaching and learning in LGS in comparison to the pass-fail system.	15	16	6	2	2	41	3.41
20	LGS helps to increase overall performance of students than the pass fail system.	10	32	3	2	0	47	3.91
21	The management provides pre – training and dissemination programmers for the teachers.	15	12	6	2	3	38	3.16
22	Teacher provides regular and reflective feedback on the students' assignment, examination and reduces their wash back effect.	5	20	6	6	1	38	3.16
23	LGS provides opportunity to re - test to increase grade for students who secure low grade.	10	24	9	2	0	45	3.75
24	Students' motivation is increasing after using LGS.	10	20	6	2	0	38	3.8
25	LGS helps to decrease the dropout rate of the students.	10	16	6	6	0	38	3.45
26	Teacher has better understanding of his teaching styles by using LGS.	5	36	6	0	0	47	3.91

27	Student's achievements affected by physical facilities such as: classroom, seminar hall, counseling room, teacher's cabin, lab room and so on.	20	16	3	6	0	45	3.75
28	Ratio of students and infrastructures in the classroom are appropriate.	15	20	3	6	1	45	3.75
29	ICT tools in classroom helps to get better achievement or grade.	30	12	6	2	0	50	4.16
30	The facilities of library and reading hall for students, as well as teachers, are well managed.	20	20	3	4	0	47	3.91
31	Replacement of LGS instead of percentage is better for all level of education.	5	12	15	4	1	37	3.08

Weighted Mean of impact score of Students .

S.N	Statements	SA	A	U	D	SD	Total	Weighted Mean
1	I understand about LGS and GPA.	25	444	219	32	10	730	3.39
2	I support the idea of an implementation of LGS in SEE.	550	192	111	8	7	868	4.21
3	LGS is important criterion for judging students achievement.	540	240	120	14	5	919	4.17
4	LGS has positive effect in students' academic achievements.	435	392	57	20	6	910	4.13
5	Grades are depending on student's critical thinking skill, collaborative learning, and writing ability.	375	404	54	26	7	866	4.04
6	High grades can motivate the students.	645	200	33	30	14	922	4.21
7	Teacher facilitates and creates an environment for group discussion for students about LGS.	95	200	105	110	57	567	2.62

8	LGS is better than number system/ pass-fail system.	350	212	108	38	39	747	3.44
9	I can calculate LGS and GPA.	155	132	150	140	36	613	2.78
10	Orientation is sufficient for understanding LGS and GPA.	120	120	165	92	65	562	2.55
11	LGS is practiced in internal evaluation of students' achievement.	90	120	126	128	62	526	2.43
12	LGS is same as pass-fail system or numerical system.	160	168	81	150	44	603	2.74
13	Students are made good GPA orientation in LGS than pass-fail system.	380	308	57	30	33	808	3.67
14	There is a clear polices and guidelines to implement LGS.	45	104	357	60	30	596	2.78
15	LGS helps to motivate students' achievement to pass/fail system.	355	248	78	30	44	755	3.46
16	LGS increases overall performance of students than pass-fail system.	275	272	75	50	47	719	3.26
17	LGS provides an opportunity	685	280	6	2	9	982	4.48

	to re-test to increase grades for low grade secure students.							
18	Students' motivation is increasing after using LGS.	475	256	42	26	34	833	3.78
19	LGS helps to decrease the dropout rate of students.	335	244	72	86	23	760	3.48
20	The students feel more comfortable in LGS rather than pass-fail system.	465	272	60	24	27	848	3.85
21	Replacement of LGS instead of percentage is better for all level of education.	260	284	84	58	38	724	3.32
22	ICT tools in classroom are better for achieving good grade.	700	224	18	22	7	971	4.41

Appendix –I

Weighted Mean of impact score of Parents

S.N	Statements	SA	A	U	D	SD	Total	Weighted Mean
1	I have listen about LGS and GPA.	5	8	3	0	0	16	3.3
2	I understand about LGS and GPA.	0	6	15	8	0	29	2.9
3	Newly introduced LGS is better than old pass fail system	7	0	0	8	5	20	2
4	Student did hard work after implemented LGS.	0	6	0	20	10	36	3.6
5	LGS is not better than Number/percentage system.	3	6	3	8	5	25	3.5
6	Grading system is different from Number/percentage system.	3	10	0	4	5	22	3.3
7	I know the meaning and process of letter using in LGS.	1	6	9	8	5	29	2.9
8	I know about practices of LGS in evaluation system.	1	6	6	8	10	31	2.7
9	The students' performance is better after using LGS.	2	10	0	12	0	24	3.4
10	Students' behavior is changed positively after implementing LGS on their evaluation system.	2	12	0	4	5	23	2.3

Appendix-J

Name of the sampled school

1. Shree Bhageswor secondary school, Parshuram- 01 Salaun.

2. Shree Kailpal secondary school ,Parshuram- 01 Boda.

3. Shree Siddhanath secondary school, Parshuram -12 Jogbudha.

4. Shree Janjoti secondary school, Parshuram -06 Gaibadhe.

5. Shree Saileshwoari secondary school, Parshuram -12 Tulabhadi.

6. Shree Bhageswor secondary school ,Parshuram- 4 katal.

7. Shree Shivparwati secondary school Parshuram -4 katal.

8.Shree Bhuweneswori Secondary school Parshuram- 5 Parigaun.

Appendix –K

Interview Guidelines for Mathematics Teachers

Name: Address:

Institution: Qualification:

Gender: Age:

The interview with the mathematics teachers will be taken on the basis of the following guidelines:

1. Introduction of letter grading system.

2. Impacts and practices of LGS.

3. Impact about student's achievement in LGS and numerical system.

4. Teacher training and orientation about LGS.

5. Views on re-test for increasing grades.

6. Teachers' role to motivate students in mathematics learning.

7. ICT tools and other facilities to be used for teaching materials.

8. Challenges and opportunity of using LGS.

9. Comments and suggestions about LGS.

Appendix –L

Interview Guideline for Students

Name: Class:

School: Age:

Address: Gender:

The interview with the mathematics students will be taken on the basis of the following guidelines:

1. Impacts about LGS.

2. Home environment to study mathematics.

3. Homework and other tasks in mathematics.

4. Getting coaching and tuition in mathematics.

5. Regularity in school and mathematics classroom.

6. Satisfied with mathematics teacher.

7. Practice of LGS in internal evaluation.

8. Views on re-test for increasing grades.

9. Which is better? LGS or numeric/percentage.

10. ICT tools and other facilities to be used for teaching and learning materials.

11. Challenges and opportunity of using LGS.

12. Comments and suggestions about LGS.

Appendix –M

Interview Guideline for parents

Name: Age:

Address: Gender:

The interview with the parents will be taken on the basis of the following guidelines:

1. Impacts about LGS.

2. Home environment to study mathematics.

3. Homework and other tasks in mathematics.

4. Getting coaching and tuition in mathematics.

5. Regularity in school and mathematics classroom.

6. Satisfied with mathematics teacher.

7. Practice of LGS in internal evaluation.

8. Impact about no student's pass-fail in LGS.

9. Views on re-test for increasing grades.

11. Which is better? LGS or numeric/percentage.

12. ICT tools and other facilities to be used for teaching and learning materials.

13. Challenges and opportunity of using LGS.

14. Comments and suggestions about LGS.

Statistical Techniques used for the Study

The statistical device t-test was used to find the comparison the attitude of mathematics teachers and students towards letter grading system in SEE level. The formula was used for calculation t-test is

$$t = \frac{\overline{x}_1 - \overline{x}_2}{S_P\sqrt{\dfrac{1}{N_2} + \dfrac{1}{N2}}} \; ; \qquad S_p = \sqrt{\frac{(N_{1-1})S_1^{\,2} + (N_2 - 1)S_2^{\,2}}{N_1 + N_2 - 2}}$$

Where,

Degree of freedom = $N_1 + N_2 - 2$

$\overline{x}_1$ = Mean score of students

$\overline{x}_2$ = Mean score of mathematics teachers

N_1 = Number of students

N_2 = Number of mathematics teachers

S_1 = Standard deviation of student

S_2 = Standard deviation of mathematics teachers