

**CAUSES OF LOW ACHIEVEMENT OF GURUNG STUDENTS
IN MATHEMATICS**

A

THESIS

BY

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Letter of Certificate

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Date: Feb. 2020

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Letter of Approval

This thesis entitled "Causes of Low Achievement of Gurung Students in Mathematics" submitted By Mr. Homnath Acharya in partial fulfillment of the requirements for the Master's Degree in Education has been approved.

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Recommendation for Acceptance

This is to certify that Mr. Homnath Acharya has completed his M.Ed. Thesis entitled "Causes of Low Achievement of Gurung students in Mathematics" 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 for viva-voce.

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Declaration

This thesis contains no material which has been submitted for the award of other degree in any institution. To the best of my knowledge and belief this thesis contains no materials previously published by any authors except due acknowledgement has been made.

Date: Feb. 2020

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Dedication

Honestly dedicated

To

My parents

Jhaggu Prasad Acharya and Kamala Acharya

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Homnath Acharya

Abstract

This is a case study related to Cause of Low Achievement in Mathematics of Gurung Students in Gorkha district. The objective of this study were to explore causes that bring low achievement in mathematics of Gurung students, to identify the strategies taken by school for improving mathematics achievement and to find the mathematics learning environment of Gurung students at home and school at secondary level students.

This is a qualitative study which followed case study design. Study was conducted with the sample size of four Gurung students (2 boys and 2girls) from grade X of the Shree Himali Secondary School in Gorkha. The students were selected on the basis of purposive sampling method. Tools of the data collection were interview with students, parents, mathematics teacher, teacher, Head teacher, school management committee and learning environment at home and school. To identify the strategies taken by school for improving mathematics achievement and the mathematics learning environment of Gurung students at home and school. Such collected information were analyzed descriptively according to the constructivism theory.

The result of the study showed that different causes of low achievement of Gurung students in mathematics they were parents education and occupation, learning opportunity at home, culture and customs, teaching method, Interest of learner, encouragement and motivation towards them relation between students and teacher, language, assessment technique, household work, negative attitude of teachers towards Gurung students, communication gap with guardians.

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List of Acronyms / Abbreviation

SEE	:	Secondary Education Examination
SLC	:	School Leaving Certificate
ICT	:	Information Communication Technology
BS	:	Bikram Sambat
TU	:	Tribhuvan University
M. Ed	:	Masters of Education
ZPD	:	Zone of Proximal Development
NCF	:	National Curriculum Framework

Chapter-I

Introduction

Background of the Study

Mathematics is an important and useful in human's life. It has a long history from antiquity and has been developing with different civilization. Mathematics has played an important role in building and perfecting all science in this world of today. It is also said that if anybody wants to make success in her/his life, they must recourse the mathematics. Mathematics develops power of acquiring knowledge, thinking and generalization. It is one of the main subjects taught all over the world in school education which is considered as essential part of the citizen (Bhandari, 2014).

Mathematics has been giving as significant place in the Nepalese school curriculum since the implementation of the Nepal educational system. The school education has categorized into three level as primary level (1-5), lower secondary level (6-8), and secondary level (9-10) in Nepal and mathematics is compulsory subject from grade one to ten (NECR, 1992). But current school education has categorized into two level as basic level (1-8) and secondary level (9-12) and also mathematics subject is compulsory subject from grade one to ten (NCF, 2063).

Gurung. The Gurung people are an ethnic group who migrated from Tibet in the 6th century to the central region of Nepal. Gurung, Sherpa, Tamang, Thakali, Manaaggi, Mustaaggi, Walunggi and many East Asian featured people of Nepal are the indigenous people of Nepal's mountainous valleys. Their ancestors practiced Tibetan Buddhism and Bön (shamanism). According to the recent 2007 surveys, most Gurung people are Buddhist. They live primarily in North West Nepal in Gandaki zone, specifically Lamjung, Kaski, Mustang, Dolpa, Tanahu, Gorkha, Parbat and Syangja districts as well as the Manang district around the Annapurna mountain

range. Some live in the Baglung, Okhaldhunga and Taplejung districts and Machhapuchhre as well. Small numbers are believed to be living in Sikkim, Bhutan and India's West Bengal (Tamu, 2010).

Nepal is multi-culture, multi-language and multi-religion country having 2, 64, 94,504 population, 125 ethnicity, 10 religious and 123 mother tongue languages. The total population of Gurung people in Nepal is 686,000 Gurung (Tamu) (0.39% of Nepal's total population) of which 338,925 speak the Gurung language (Nepal Census, 2011). Their ancestors, culture and traditions are traced back to Tibet. Though, Tibet is called "Bhot" in Nepali language, the word "Botay" is considered derogatory to refer to Asian featured Nepalese. They coexist well with other ethnic groups of Nepal such as Madhesi and Khas. Khas and Madhesi people are Hindu, Indo-Aryan group who have migrated to Nepal after 12th century and brought with them the Hindu caste system. Most Gurung and other indigenous Nepalese of Asian features is Buddhist and so they are not bound by the Hindu caste system. Nepali of Asian appearance refers them as Mongoloid. Sometime, the term Mongoloid gets mistaken by youngsters and they think their ancestors originated from Mongolia. No study findings have pointed Gurungs origin to Mongolia. Instead, many studies and historians had confirmed their origin to Tibet. Gurungs are also known as TAMU, are hill people. As the movement of people from one place to another is a historical phenomenon, Gurung an ethnic group migrated from Mongolia in the 6th century to the central region of Asia. The word 'Gurung' is actually pronounced as 'Gu-Rewan', which is the combination of two sounds- 'Gu' and 'Rewan'. 'Gu' means nine according to Tibetan language and 'Rewan' means Mountains and Hills.

Therefore the word 'Gu-Rewan' signifies people living in and around the Mountains and Hills, which matches quite well with their historical background,

hence speaks the great significance of the Gu-Rewang/Gurung. Gurung are found in the Indian hilly kurseong, Doors, Hasimara (North Bangal) of West Bengal, South, West and East districts of the state of Sikkim, throughout Assam, Dehra Dun, Uttar Pradesh, Arunachal Pradesh as well as other parts of India. A large number of the Gurung community also live in Nepal. Gurungs are found outside India and Nepal where they have played a renowned role as Gorkha soldiers. Their ancients practiced BONPO (nature worship), later converting to Tibetan Buddhism. Today, Gurungs follow Buddhism as well as their own primitive religion. The Gurungs have a rich tradition of music, culture and 'Rodhi'. Gurungs are hardworking, trustworthy, adaptable and quick learners in meeting the challenges of modern life. Their traditional occupation was sheep herding and Trans Himalayan trade. In the 19th and 20th century, many Gurungs were recruited into the British and Indian regiments.

To conclude the Gurung are Tribal Buddhist by origin, and have a rich culture, and three major traditional occupations like Sheep herding, Honey hunting and Service in the cultural identity showing they are a brave Himalayan Tribe. Today hardly anybody know them and their history is totally hidden from the world (Lama, 2018).

Case students was selected Shree Himali Secondary School of Gorkha district. The school performances in SEE examination (Regular) from 2072 B.S. to 2075 in mathematics of the school result are;

Table No: 1**SEE Mark ledger of Himali Secondary School**

S.N.	Year (B.S.)	Total students		Average grade in mathematics								
				A ⁺	A	B ⁺	B	C ⁺	C	D ⁺	D	E
1	2072	28	Gurung students=25	0	0	0	0	1	2	4	9	9
			Other students= 3	0	0	1	2	0	0	0	0	0
2	2073	20	Gurung students=18	0	0	0	1	1	2	2	4	8
			Other students=2	0	0	1	1	0	0	0	0	0
3	2074	26	Gurung students=22	0	0	0	1	0	2	5	5	9
			Other students=4	0	0	1	1	0	0	1	1	0
4	2075	17	Gurung students=14	0	0	1	0	1	2	1	5	4
			Other students=3	0	1	0	0	1	1	0	0	0

Source: school document

From above data it shows that higher grade A⁺ and A is not obtained by any of the Gurung students. Only the lower graded, D⁺, D and E was obtained by the most of the Gurung students. Grade of Gurung students was less than other students in school. Hence, in my teaching period from 2072 to 2075 B.S. the Gurung students have less achievement than other students in mathematics. Thus that their parents, teacher and head teacher asked me that what was the reason behind the low achievement in mathematics in my teaching period? Thus I decided to research what was the causes of low achievement of Gurung students in mathematics.

Statement of the Problem

A problem might be defined as the issue that exist in the literature, theory practices that leads to need for the study. Since the statement of problem is mentioned in any kind of research. So I have tried to express the problem related to this study. This study concerned with to find the causes of low achievement of Gurung students in mathematics. Gurung students are educationally back warded, deprived from

opportunity group and have faced different problem in mathematics learning that other students. The school result show that the achievement of Gurung students in mathematics is lower than the other community school student in secondary level. In the modern world, all the science and technologies are depends on mathematics knowledge. So mathematics is major factor for every student to his/her career. The need of mathematics is apparent for everyday life as well as for higher students in the field of science and technology. The study was concerned with the study of Gurung students at secondary level. The following were the research question for the study.

- What are the causes that bring low achievement in mathematics of Gurung students?
- What strategies can be applied in school to improve achievement of low achieving students?
- How is the learning environment of Gurung students at home?

Objectives of the Study

The following were the objectives of this study.

- To explore the causes of low achievement of Gurung students in mathematics.
- To identify the strategies of school for improving mathematics achievement.
- To explore the mathematics learning environment of Gurung student at home and school.

Significance of the Study

Mathematics is one of the most important subjects in the school curriculum. It is widely used and must applicable discipline in the society and higher level study.

The result of the student in mathematics is low in average at school. Gurung is a marginalized, disadvantage and deprived group from opportunities who have low economic status, low education status in their society. They have their own culture

tradition and religion. There are causes of low achievement of Gurung students in mathematics. Most of the researcher had compared mathematics achievement of students on the basis of ethnicity, parents' education, occupation and income and they had also found its effect on mathematics achievement. At that time I found the different data causes getting low of Gurung students in mathematics. These study determine why the achievement level is low? What is the significance of this study? Thus the, study was significant for the reason that it would help to determine the achievement in mathematics which could be used to improve the mathematics teaching learning situation and to reduce the low achievement rate in mathematics. This future research study in the field cause of learning problem of Gurung students. In this research was more relevant and contextual. Research had gone to find the following significance.

- This study finds the reason of low achievement in mathematics of Gurung students which would be valuable things for teacher, researcher, curriculum designer and other stake holder related to education.
- This study would be important to identify how the learning environment affects in the achievement of Gurung students in education sector.
- This study would be useful to give some basic guidelines to the new researcher and scholars to carry out and complete to their research work in the field of teaching learning activities in mathematics.
- This study open the door for future research in the areas of cause of low achievement in mathematics.
- In the light of above mention significance, it would be become necessary to investigate the cause of low achievement in mathematics of Gurung students of Gorkha district.

Delimitation of the Study

The study was confined to a single community school of Gorkha. The study was about the cause of low achievement in mathematics in secondary level. So the result of the study can be no more generalized. This study was limited as follows.

- This study was limited to only one school of Gorkha district.
- This study was done in Siranchowk Rural Municipality of Gorkha district.
- This study was based on secondary level Gurung students in community school.
- This study included only four low-achieved grade ten Gurung students and two teachers for interview.
- This study was completed by using questionnaire and interview schedule.
- This study was limited only about mathematics subject.

Operational Definition of the Terms

An operational definition is the application of operationalization used to define the terms of a process needed to determine the nature of an item or phenomenon. A description of an experimental procedure for the translation of a variable into measurement or numeric value. An operational definition is how the researcher decides to measure the variables in our study.

Achievement. Achievement in the study is defined on the basis of mathematics score obtained by the students in the test taken by school.

Gurung. Indigenous ethnic group of Nepal whose homeland extends from the western and southern edges of the Dhaulagiri section of the high Himalayas range south to the prominent Mahabharat foothill and eastward into the Gandaki region.

Causes. The term causes is defined as the reasons that are affecting in the achievement of student such as practice, environment, teaching learning strategies and motivation.

Factors. The terms is defined as the one of several thing that cause or influence some things; eg. Education, economic, social and cultural.

SEE. Secondary Education Examination that is for the evaluation at the end of grade 10.

Community school. Those school which were getting financial support from government.

Illiterate. It is related to those person who can't read or write.

Literate. It is related to those person who can read or write but not taken formal education.

NCF. National curriculum framework.

Chapter-II

Review of Related Literature

Review of related literature was an exacted task, calling for a deep insight and clear prospective of the overall field. The main purpose of related literature was to find out what works have been done in the area of the research problem under study and what has not been done in the field of the research study being under taken. The review of related literature helped to make the concepts clear for the study and also directed to analyze and interpret the data. There was some studies related to cause of failure in mathematics is reviewed for this study.

Empirical Literature

Yadav (2008) studies on the causes of low achievement in mathematics of musahar students and his research found that the musahar economic condition does not seem to be strong to send their children at school and afford them in their future education. Most of the musahar parents were illiterate and they use their children as a means of learning to support their living. Most of the musahar students speak in Maithili language which cause difficulty for them to deliver their own opinion to the teacher and understand nepali language and another is socio-economic condition.

Gotame (2005) conducted a research on “The Impact of parent’s Beliefs on Mathematics Learning and Achievement of secondary level Students”. From the statistical analysis of the collected data of the children and parents expectations in mathematics but it varied according to their social and cultural background and educational status. Mathematical thinking and doing was depending on the parent's status and beliefs.

Subedi (2005) studied on “Factors Affecting Failure in mathematics in SLC Examination” with the aims to measure the effect of school and out of school

contextual factors in mathematics achievement in SLC examination and to determine the correlation between affecting factors and mathematics achievement. The researcher concludes that:

School Environment such as school location, number of students in the class room, environment and regularity of teacher had strong positive effect on failures mathematics achievement. It concluded that the school environment is very essential for increasing the mathematics achievement. Effective classroom teaching such as pleasing environment, initiation of lesson, and use of instructional materials appropriateness to teaching, participation to discussion, teacher's activities had strongly positive effect on failure mathematics achievement. It concluded that effective classroom teaching is very essential for increasing the mathematics achievement should be improved. Time variable, i.e. amount of time student spent out on school activities such as leisure reading, homework, discussion with peers had strongly positive effects on mathematics achievement. It concluded that the time variable is very essential for increasing the mathematics achievement. Therefore if the students are encouraged to above works, the achievement will increase.

Ghimire (1997) studied on "A Study on Factors Affecting Teaching Learning Mathematics at Secondary Level". With the objective to study the factors affecting in learning of school in terms of the following: school environment, family background, motivational factors, physical facilities, interest of the learners, instructional materials. He had found the result as: Home environment affects more to the subject of rural areas and girls were affected more than boys, the students of urban areas were more. Interested in the study of mathematics and the girls paid more attention for the study, the students of the rural areas were more affected by the use of instructional materials.

Dahal (2011), did a study on a topic “Causes of Low Achievement in Mathematics of Magar Students” (A case study in Kaski District). The main finding of this study will be parent's education and occupation, learning opportunity at home, cultural and customs, teaching methods, encouragement and motivation towards them, relation between students and teacher, language, geographical situation, assessment technique, household work, negative attitude of teacher towards Magar students, communication gap with guardians.

Since from above review, there have been many researchers on achievement study of different ethnic group, factors affecting learning mathematics and causes that affect mathematics achievement. From which the researcher has been found that there is many factors such as culture, physical facility, home environment, teaching learning process, motivation, teacher behavior and interaction are the influencing factors in learning mathematics.

Theoretical literature

There are so many theories which can be used to understand the learning process. The theoretical discussion is needed for the interaction of the finding of the study. Many theories about the learning and development of children such as cognitive, behaviorist, humanist, theory of educational productivity, theory of fear, social and interpret the data of mathematics or resolve the problem. To analyze and find the suitable solution in the area of low achievement in mathematics; constructivism becomes the possible theory to solve the problem on the topic of "Causes of Low Achievement of Gurung Students in Mathematics". Every child learns from society from social contact with home, family and universe. According to the, knowledge can be constructed from society.

Constructivism. As constructivism become related to educational theory to deals with the problem of mathematics. It resolves the problem of low achiever in mathematics. It is a theory based on observation and scientific study to deal the problem of learning. It asserts on forming the understanding and knowledge of the world through experiencing things. When we encounter something, our mind perceive the things and reconcile with previous ideas which has already existed or reconciled with pre- exist idea. It means our mind becomes activities creator to reach and act with present surrounding. In the similar way constructivism idea of learning can point towards number of different teaching practices. It encourages the student to involve themselves activity and use techniques of learner centered, group work discussion, learning by doing, use outside tools to be more practical and gain high achievement in mathematics rather than classroom it focus on real life learning environment, social interaction and use of complex idea share with others outside of classroom easily. Constructivism transforms the student from passive receipting of information to active participant in teaching process. Constructivism based on three axioms that are follows.

- Learners learn knowledge from their active participation.
- Learners gain knowledge while reflecting on their own action.
- Learners gain knowledge when they try to convey their solution to others.

From above axioms Upadhyay (2001) took three terms action, reflection and scaffolding to describe three broad aspects of constructivism, psychological aspect, philosophical aspect, and sociological aspect. Piaget stresses on the key word “action” through which he advocates that knowledge is gained. He said that essential way of knowledge is not directly through our sense, but primarily through our action.

Philosophical aspect of constructivism is also called radical constructivism, which is

led by Glasserfeid who advocated as social constructivism led by Vygotsky, who states that knowledge is socially constructed.

Vygotsky's Constructivism Theory. Vygotsky has developed "socio- cultural theory" and believed that children are active seekers of knowledge. Knowledge is being constructed in social situation of negotiations, rather than being the reflection of the objective reality which is termed as social constructivism. In social constructivist theory, such human being makes sense of worlds in a unique way. Vygotsky argues that the child development cannot be understood by studying the individual that it needs to examine the external world. The child can capture every bits of information from the content that is needed for constructions of meaning.

Vygotsky's child is social which presents right from the beginning as he arrives into the complex work of social relationship and culture. According to vygotks child development is organic growth and maturation knows as natural line as well as psychological function knows as cultural improvement. He believes on the rate of the culture in development of the child. This is transformed to them by their parents, adults or peers. Vygotsky provided a materialistic basis for the development the mind. According to social constructivist Vygotsky, knowledge is constructed in two ways in social content first. Social interaction influence on the nature of knowledge that is constructed and process of individual use to construct that knowledge. Thus the constructions are socially centered and involve process of understanding, constructing meaning and making sense. The knowledge constructed by child is not only through his own capacity but from also the content and interaction with more knowledge others. Vygotsky proposed that child knowledge could be predicted if we could understand the social content.

Adults who after an effective scaffold adjust the assistance they provide to fit the child's current level of performance. In accord with his emphasis on social experience and language as vital forces in cognitive development Vygotsky regarded "make-believe as a unique broadly influential zone of proximal development in which children advance themselves as they try out a wide variety of challenging skills. Vygotsky pointed out constantly demands that children act against their impulses because they must subject themselves to the rules of the play scene. So, in brief people (student) do make their own meaning from their own belief, construct new idea from what they observe, listen and perceive. They do not always use the taught methods but use their own strategies to solve their problem on their own.

Conceptual Understanding

This is a case study related to the causes of low of achievement in mathematics of Gurung students. It had already described related with literature and theoretical perspective, the following theoretical model was constructed for the low of achievement of Gurung students on mathematics leering which was the framework for this case study.

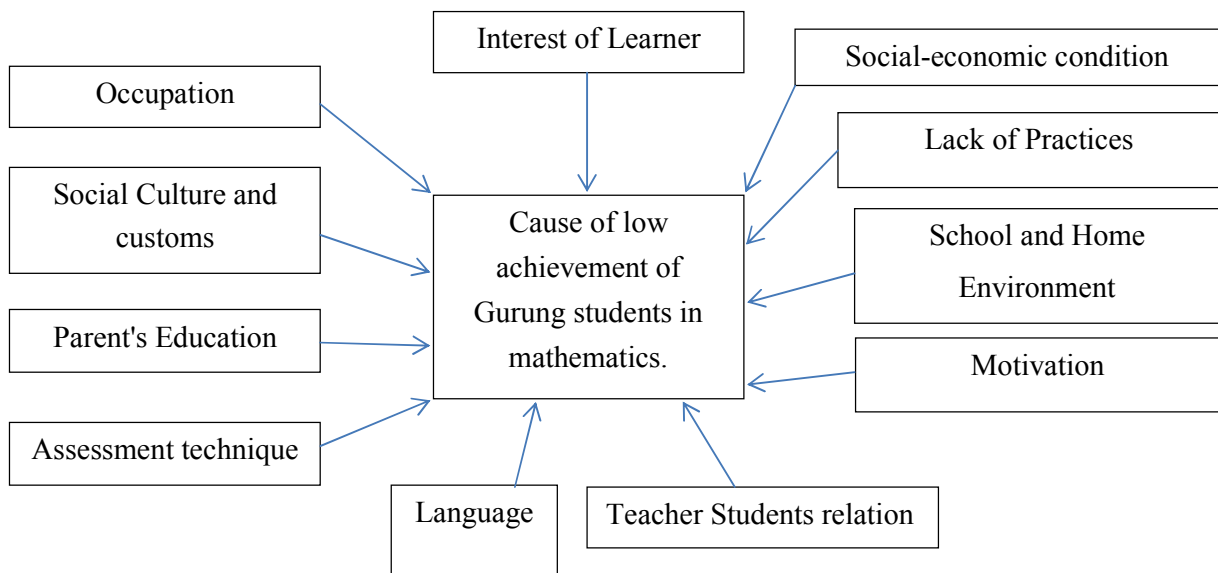


Fig. No: 1; Framework for causes of low achievement of Gurung students in mathematics.

The teacher and students should pay attention while applying the method in learning mathematics. Culture is the sum of past and present and it is the base of human psyche that affects in everything as in learning. Heredity, environment and class are three things which shape the psyche of the people. The social environment include the people's behavior of the society, their social status and social structure, man is social animal and so, his behavior is every shaped by the society. The ways they speak, eat, think and behave affect other people of society.

Many Gurung students are being deprived from achieving education. Student's interest in the subject varies according to the situation. Students can get good marks in their interested subject. So interest for plays them key role in learning.

Chapter III

Methods and Procedures

Research methodology is a science, which determines how the research becomes complete and systematic. It does not only mean to collect data information but also meant to use appropriate research method. As methodology is the root of research, the researcher should be clear about the research design, nature and sources of data, selection of case school and selection of respondents, instruments/tools, data collection procedures and data analysis and interpretation. So, these mentioned points are included in this chapter.

Design of the study

For this research, qualitative research method was followed which descriptive in nature. Among the various qualitative methods, the researcher has followed case study design. This case study was conducted qualitative research method in which verbal data were provided by the naturalistic inquiry in sense of natural setting. Gurung student were specific unit in community and introduced as low achiever on especially in mathematics subject so that the researcher has selected Gurung students as causes to meet the objective of this study.

Nature and Sources of Data

Mainly, the research was based on primary data. However, both primary and secondary data were collected. The researcher himself visited the case school and collected data. Secondary data were collected from published and unpublished literature, school records and government records. The researcher has used qualitative and quantitative data.

Selection of Case School

When I had gone to one of the public school located at Siranchowk R.M, 6, Gorkha district to teach in secondary level mathematics subject. At that time it was found that most of the Gurung students were low achieved in mathematics subject. So I focused on the Gurung students and that such where Gurung students investigate low achievement in mathematics. The researcher selected Gurung students (one of the Janjati community) at Gorkha.

Selection of Case Respondents

In this research, Shree Himali Secondary School (Public school), at Gorkha district was selected. Because this school represented more number of Gurung students in this area and it means there was residential area of Gurung people around this school and also most of Gurung students than other students comes to admit in this school so that the researcher selected this school for the study. In this research, the researcher took all the Gurung students from grade X who were very low achievement in mathematics subject as a case students and they were two boys and two girls and also taken there representative parents, math teacher, school management committee, head teacher respondents of case study. For this study propose the researcher prepared the conceptual understanding of the study in literature review. To get additional information about the case students and his/her students background researcher prepared the individual students record (Appendix- A and B) of low achieved Gurung students by purposive sample method because qualitative data from those respondents were helped to meet the object of this study.

Tools for Data Collection

To collect primary and secondary data for this case study the interview, class observation form, and school documents were the instruments of the study. On the

basis of data collection techniques we can study and analyze every aspect of the study. These instruments were used to collect primary and secondary data. The tools were developing depending upon the different variables/causes of purposed model of this study. For the validation of the tools, pilot study was carried out.

Among the total students of the grade X as students were selected from different village ahead get low achievement in mathematics subject. Out of four students two boys and two girls selected for the interview. The interval is taken from those students there charioted per formalizes in class were observed. Along with the observation some of the question were asked to them for better pilot test about their study.

In-depth interview. This study was focused on the interview data. The researcher undertook interview under the guidelines in unstructured form. With help of developed unstructured interview the researcher carried out interview with key students, mathematics teacher, other subject teacher, Head teacher, and parents of case students, school management committee to collect primary data. On the basis of the objectives, the researcher developed semi- structured form (Appendices- A, B, C, D, E and F).

Observation. The direct observation method was used to collect the information about their activities in this school environment, class room situation, student activities. The already established semi- structured observation form was used to fulfill the intended objective of the study. Many Gurung students getting low in mathematics we are selected students by different village. The researcher had observed activities of the key respondents in their school/home using the pre-established form. Regularity of students/teacher, teacher's behavior learning environment, relationship between teacher and Gurung students, and friend's

behavior, towards Gurung students was observed by the researcher. The different outlook of student's behavior in the classroom and the activity of mathematics classes were carefully observed in school to find the students I had visited to their house and noted by non-participated observation. The researcher developed the observation theme in semi- structured form (Appendix G and H).

Documents Study/review. The information related to the student's low achievement in mathematics in SEE and his/her regularities, previous academic condition, SEE result and teachers profile were collected from school documents.

Validity and Reliability

Validity refers to how well a test measures what it is purposed to measure. Reliability and validity of the research tools was determined with the help of related theory and suggestion of subject expert. To determine the validity of research tools the interview was taken over a period of time with selected samples. The frequent class observation was done to check the consistency of methods and procedures used in classroom. The school's document were gathered to and noted for the trustworthiness. Further cross match had been adopted to maintain the trust of the study. The researcher was trying to understand by collecting different sources and within different tools. Given data triangulation among the sum of information interview, observation obtained from the classroom with the Gurung students, math teacher and parents.

Data Collection Procedure

After getting chance to teach there, when I saw the low achievement of Gurung students then I starts to investigate the poor Gurung students. To collect the qualitative data class observation was done regularly for 10 days during teaching learning activities. Researcher could watch listen, interact and record the essential

data from the information in a natural setting through using non participant observation. On the basic of observation from the researcher had observed mathematics class in grade X of the school and behavior of the students in the classroom. On this observation form classroom behavior, difficulties they feel in mathematics learning and other essential information was carefully observed and noted every day.

With the help of unstructured interview schedule, the interview was taken with focused children, their parents, management team, head teacher and mathematics teacher. The interaction with the above respondents was carefully listened and noted properly. The student's attendances, regularity and other behavior of activities were noted from school record. This school environment and other details were obtained by observing the school environment interviewing with head teacher and documents analysis of school. School documents related to the study of the school teachers profile, physical facilities, students and teacher regularity, previous results of the students, SEE result were acquired from school for the purpose of collecting data. The learning environment of the home and other details were obtained by taking interview with parents of Gurung Students.

Data Analysis Procedure

To analyze the qualitative data through a general inductive approach, first of all, I condensed the extensive and varied raw text data into a brief summary format. The next step was to establish clear link between the research objectives and the summary finding derived from raw data and to ensure that this link are both transparent and justifiable. And finally, I developed a conceptual framework of the underlying structure of experience or processes that are evident into raw data (Thomas, 2006).

This was qualitative research hence the major part of data analysis was based on descriptive analysis. The collected information from class observation, interview and school records were first categorized according to the category of the respondents and then different themes were given in the text of interview schedule and observation form. These themes were considered as a code versions of the respondents was collected together and explained in their perspectives the validity and reliability of the result would be maintained by cross matching them.

The above mention them was collected together under the same themes and explained according to the conceptual framework related before the researcher developed and matched with the theory in literature review.

CHAPTER IV

ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the collected information from the case study. This was a qualitative study. The main focus of the study was to explore the causes of low achievement of Gurung Students in mathematics. The researcher minutely studied on the school document such as teacher profile, mark ledgers, attendance as well as the record of the case students. Also the researcher had observed mathematics class, case student behavior, activities and interaction behavior with mathematics teacher in this research. Each activities and behaviors of the students and teacher were carefully observed and noted. The direct interview was taken to the focused students, their parents, mathematics teacher, head teacher and school management team. The responses of the respondents during face to face interview were carefully noted. The student's home environment and behavior was evaluated by the researcher with the help of interview schedule. The researcher had also noted the case student's pre class document, their regularity, from school document. There was no limitation for respondents for responses. They were able to express freely whatever they have in their mind.

The descriptive method is mainly used in this research. The researcher has attempted to calculate the study by describing and analyzing the information acquired in the research process. The collective information were analyzed and described in their perspectives under the following headings.

1. Introduction of sample school
2. Introduction of case students
3. Learning environment of Gurung students at school and home
4. Interest of Learners

5. Assessment technique and community relation
6. School policies for low achieved student's

Introduction of Sample School

Shree Himali Secondary School is located at Siranchowk 6 Gorkha. It was established in 2026 B.S. (1969). It is the school started with 7 students in B.S. 2026 and an intake with average 30 students. The school stands within the narrow area and is situated 29 kilometers west from Gorkha Darbar located along the side of Barpak way. The graduates of this school had entered into different professions and were working at various level of politics, government and various services.

According to the Head teacher and school document of this school, it was although the government decision to temporarily decline this school, which has been run as a readiness in 2021-2025 B.S., was in 2026-04-31 B.S., the dissolution inaugural establishment was done in the year 2026-08-10 B.S. Establishment name of school is history name Sandoan Bhanjayng primary school from Himali by the instant administrative committee by the Government of 2030 B.S namely school Himali primary school. Similarly, informal class 2011- 2024 B.S was operation and after that the class temporary approved on 2026-08-10 B.S. The teacher had also received a coincidence with the permanent approve. Similarly, class 4 operation inducted in 2040 B.S, class 5 operation inducted in 2041 B.S, class 6 operation permissions in 2056 B.S, class 7 operation permissions in 2057 B.S, class 8 operation permissions in 2062 B.S, class 9 operation permissions 2067 B.S, granted was to class 10 operation permissions in 2057 B.S. The resent name of school is Shree Himali Secondary School.

All of the communities around school were mix communities. The student of Gurung communities were in greater number than that other communities. People of

different cast live around the school areas they are Brahman, Chhetri, Gurung, Rana, Magar, and Dalit. So the student's from different cast and different groups study in this school. In the comparison to the students of Gurung student's communities the students of the other communities were more in number because the overall population of this community was more. Gurung parents did not send their children regular to the school because they were economically as well as cultural and educationally backward. Many parents of the students were mostly found in agriculture profession. Very few were engaged in government service, business, foreign based service, abroad work, solders as well as labor. Economically some peoples in the community were rich and middle. Some of them had difficulty even for hand and mouth. The more student's from school economically weak background. There are eleven secondary school in Siranchowk R.M. but I have selected Shree Himali Secondary School, because it has low performance in mathematics than other Gurung students. The researcher had selected as a case school among public school because the school has problems of students low achievement in mathematics it can be easily seen through the result of grade nine mathematics examination of 2075 B.S. of the case school.

According to school document looking at the result of mathematics of the final exam of class nine of 2075 B.S, 20 students of three students obtained B⁺, B and C⁺ grade respectively taken by other community. Similarly one student obtained C⁺ grade, nine students obtained C, D⁺, D grade respectively and 7 students obtained E grade taken by Gurung students. It shows that the achievement of mathematics is very poor in the secondary level.

According to the above result low achievement in mathematics. It is due to the poor family background and ignorance of parents. Similarly, most of the students

were from Gurung culture and few student's different culture, religious group.

Therefore the understanding level and learning environment are different from one student to another. It is difficult to teach effectively within a same class. That's why learning achievement of Himali secondary school is very poor in mathematics. Being a students of mathematics researcher through it is better to find the causes of why there is low achievement at mathematics. From above table, some of the statements on why the students weak about mathematics as follows:

"Earlier there is lack of qualified and experienced teacher to teach in mathematics."

(Head teacher)

In view of the above Head teacher statement, there was no compulsion of secondary level mathematics teacher, but the lower secondary teacher was forced to teach secondary level mathematics. Thus, the mathematics teacher at the lower level said that there was not much progress in mathematics as there was a need to teach at the upper level. Therefore, the main weakness of the mathematics subject is not being able to manage a qualified teacher.

"We are the farmer's son, we are forced to work in the house, so we do not get enough me to learning environment at home."

(Respondent B and D)

It is clear from the above student's statement that because of poor economic condition and since agriculture is the main profession, the students have to go home and work for farming. Due to the necessity of going home from school to work, it was found that I could not study at home. Because of this, the lack of a good environment for reading at home is considered the reason for the weakness in mathematics.

"Since our economic condition is poor, we are unable to pay for additional classes for student's fee and other people are not available to while support study at home and lack of economic competency."

(Parents of Respondents A, B, C and D)

According to the above parent, agriculture is considered to be the main source of economic income, since it is difficult to earn a living from agriculture. This makes it difficult to arrange additional classes. Thus, according to the parents, there was farming work in the home as the students also had to work because the students had less time to study at home.

"Students do not have regular school attendance and do not pay attention to mathematical practice and mathematical regardless of understanding of mathematical basics information in less home based homework"

(Mathematics teacher)

In view of the above mathematics teacher, the students are not regularly present in the classroom. So that the absence of teaching the common rules of mathematics objects and the presence of the previous subject when present the next day, they do not understand. According to the teacher, students were allowed to do it at home. Due to which the practice work has been reduced so that due to the practice of many subjects like mathematics, teaching is not permanent due to lack of practice which makes it low achieve in mathematics.

In view of all the above, it is found that constructing the environment in which the child is given is consistent with the constructivism theory. Because students are forced to work at home, they do not do as much as they need to do mathematical exercises. In conclusion, students found that there was a problem in reducing mathematical practice and lack of teachers in secondary level mathematics.

Introduction of Case Students

Respondent A. Respondent A was fifteen years boy studying at grade ten. He lives Siranchowk 6, Gorkha. It takes him ten minutes to reach in school from his home. There were six family member in his house and they all believed in Buddhism as well as Buddha religion. He sometime spoke Gurung language with his family relatives and friends. He was known as a disciplined boy in the class. His aim of life was to be an Engineer. He had got 10th position in previous class.

His parents were uneducated. Economically, it was hard to maintain the family. His parents were not employed and few years ago his father went abroad to earn money. Now his father was a farmer and mother was also farmer and worked in the house at day time. His one sister was studying in grade nine in the same school. While observing the mathematics class, the researcher saw him with regular homework but according to the mathematics teacher sometime he comes without homework .He had hardly asked the question in mathematics class and also less participated in teaching learning activities. From that we can assume that he was interested in physical activities rather than in academic activities. When I asked about his educational status, his father said *"I feel that the son had got a good number and got it for that I will do all the best."* According to his father, he wishes to have passed the SEE exam rather than mathematics but due to financial constraints, he was not given additional side regular medicine and was forced to work at home that bring low achievement in mathematics.

While observing the mathematics class, the researcher saw him with regular homework but according to the mathematics teacher sometimes he comes without homework. He had hardly ask the question in mathematics class and also less

participation in teaching learning activities. In conclusion, the short ride to mathematical problem solving did not deal with the mathematical problem he did not understand due to financial constraints. Similarly due to the fact that teachers do not have enough time to teach mathematics using lecture methods without educational materials, they were found to be low achievement in mathematics.

Respondent B. Respondent B was fourteen years girls of grade ten in Himali Secondary School. Her house situated in Gaira which is one kilometer far from school. All members of her house followed the Buddha religion and also spoke Gurung language. There were six members in her family. Her parents were illiterate. But they were working in Chitwan district. Her mother worked in farms at morning and evening and she also worked in house at the day time. Her class Roll. No. was five and interested subject was Population. Mathematics and science were the subject she was not interested on. She did not want to miss the class but sometimes the work of farming leads to the need to leave. She submit the mathematics homework but rarely with complete homework because she could not solve all the problems and there was no one to guide her in study at home. When I asked about the assumption of children should be taught? Her mother said "*I hold the belief that the children should be taught I am helpless, did not get education, so I could not fully help them in their study.*" Her mother goes to the farm early in the morning generally, she is cooking in the morning was her compulsion. So she had no time to study in morning. She did her homework and study at the night time. Sometime she did not complete due to the problem to work tired and load shedding.

He was not interest in study. He did not do homework given by teacher. He said "*I have no time to do homework because I have to engage in household work, I have to finish all the household work before going to school.*" He added I know the

importance of the education but my family environment is not favor of study in his house. The mentioned indicates the main causes of low achievement in mathematics. From the above observation and interview of the respondent, the researcher concluded that mathematics is the most difficult subject for the respondent. The reason behind difficulty was the student's unfavorable home environment, poverty and lack of guidance for his study. The respondent I cannot gate enough opportunity to study at home, lack of motivation, unconsciousness about the importance and use of mathematics in real life. The causes of low achievement in mathematics. So, the researcher concluded that the teacher should motivation the respondent towards. The used of mathematics in real life and used for teaching materials for mathematics concept and partial method used for mathematics teaching learning activities.

Respondent C. Respondent C was fifteen year boy of grade ten. His house is located at Chilaunegau and it takes one hour to go to the school. There were seven members in his family and they all followed the Hindu religion. His father and mother were illiterate and were engaged in farming. He is interested in playing football, Kabardi game and enjoy leisure time with friend by making jokes. He also enjoys in festivals and ceremony according to his culture and customs he enjoys much. So far as his culture is concerned. His family member works in the field on low wage and spend their money drinking alcohol and quarreling to own another. I asked him in the question of why the students get weak about mathematics. Head teacher said "*For the mathematical education, the physical method of the school is not good and there is not sufficient educational materials.*" From the above view of the head teacher in current situation, the school may not like to study mathematics even though the physical structure of the school is poor and there is not enough educational material. Mathematics teacher said "*We should go at home and very least to exercise its*

practice." According to the mathematics teacher, the homework and mathematical exercises given by the students were rarely done. The Gurung student said "*Due to the need to go for a long walk, the school should be more tired.*" According to the students, because the school is too far away from home, we are unable to finish all the homework given by the teacher because of the long wait and tiredness of going home.

While observing the mathematics class, research showed that he had never completed his homework and unable to solve the mathematics problem immediately when the teacher worked out in the class work. He had hardly asked the question in mathematics class but participated more in extra curriculum activities. From that he was interrelated in physical activities. After returned home from the school, he took his snacks and then went to play football and returned home at evening. He did not shows his interest in household work.

Respondent D. Respondent D was sixteen year girl student studied in grade ten. There were four family member in his house and they all believed in Buddhism as well as Buddha religion. Her parents were engaged in agriculture. Agriculture and someone else's labor has been taught by children. She helped her parents both in household work and works outside the house. She want to be a teacher. To play with her friends was her main hobby. She did not have good family environment to study. About this her mother said "*We are the men who pass out life by working in daily wages. So when we become out of the home, morning and evening always should be cooked. But we give her chance to study when we are in house. The main problem is that we are economically weak.*" According to her mother, it is clear that she had to do some household chores in the evening, as there was no time for adequate study at home. And her father said "*We are illiterate, we are economically weak because of the lack of knowledge of education. Thus way I will teach her less until she complete*

SEE. " According to data he said that he could teach up to SEE and then teach above because he was weak in financial condition.

In my opinion, it was found that the student did not have enough time to study at home. She had to do the house works rather than study because her mother used to think that a daughter must do household activities. The researcher asked to the mathematics teacher about her learning, he told that she can't attain the class regular and got more difficulty in learning verbal problem because she does not understand in math word language frequently as she spoke Gurung language at home. She had to labor hard to get success in mathematics.

Learning Environment of Gurung Students at Home and School

Environment is the major component of mathematics learning. It includes both school and home environment which plays the vital role to provide atmosphere to progress in study.

Home Environment

Home is the first school of every child. Every student's education start from their home through formal education start from school. Student spend more time at home rather than school so it is most important aspect to study. It is assumed that the highly influenced by the home environment, parent's education, socio-economic condition, study time at home, occupation, culture and customs on the study.

"Mathematical themes learned in classroom teaching are not remained by students at home."

(Mathematics teacher)

According to the mathematics teacher, the students did not develop the habit of looking back at the mathematical problem in the classroom, which shows that the students did not solve the mathematical problem by doing the same with the tax.

"Due to lack of competition for the study, the parents has no interest in reading or writing about his child at home."

(Head teacher)

The mention view of Head teacher shows that the parents and students have no thought about the completion they were not interested in their children study.

Therefore, there is less competition in mathematics because of the lack of competition environment.

"My children do not get book and other facilities on time due to poor income which is gained from labor."

(Parents of Respondents A, B, C and D)

According to the parents, the financial condition of the house was weak due to the fact that the students did not get textbooks in other educational facilities like tuition coaching and reference materials.

"As our economic condition is weak and the main profession is to be done because of agriculture, so do not study in home."

(Respondents A, B, C and D)

In my opinion the researcher concluded that some student's family background is middle but must students family background is poor for study at home. Many student's families were poor and small also. Therefore they must do much work at home as well as out of home. The Gurung students low achievement due to irregular presence in the class and shy in nature on other hand. They have no money for regular tuition and have felling inferiority complex. The constructivism theory also elaborate that the opportunity to learn mathematics at home play vital role in mathematics achievement. The lack of sufficient time for mathematics learning at home of Gurung students is one of the causes for low achievement in mathematics. Due to poor

economic condition of Gurung students can't manage their time at home for mathematics learning.

Parent's Education. The students pass their most of the times in the home. The children learn many things from their parents. If the parents are literate, moral and have good characters, their children also follow the same behavior. If the parents have bad behavior and are illiterate, their children learn that behavior from parents. There is not only the role of teacher in learning process but also of the parent's awareness, education, their way of handling and guiding the family members, culture, economy and environment. The parents teach the basic knowledge of life, practical aspects, skillful concepts, right Vision, appropriate norms and values to their children. If the parents have good education, they too try their best to enable their children academically. So they can live easily in society and inspire them to the right use of life's every potentiality and opportunity. When I asked about their parent's education, the following responses were obtained.

"Our parents are illiterate they could not read and write. So our parents can't provide guidance at home for mathematics learning. "

(Respondents A, B, C and D)

According to the data student's opinion that almost all the students' parents are observation, seems to have little interest in education. Thus parents and anyone who reads at home lack of education shows little interest in education. In view of the student's comments, parents may not be considered as reading environment and those who ask for something unknown may be considered that bring low achievement in mathematics subject.

"I am helpless, I have no education so I can't do it I help them."

(Parents of respondents A, B, C and D)

The view of parents are uneducated and upper class, we cannot check what our children study at home. Parents' view that we do not know anything about our children's education has led to the students being weak in mathematics.

"The parents are illiterate. They do not give the guidance to them for learning mathematics. Their children do not complete the homework regularly. Due to this reason they became weak in mathematics subject."

(Mathematics teacher)

According to the teacher's opinion that the parents are illiterate and literate. It is clear from the classroom observation that since there is no person to guide at home. The students in the house of education and the students should prioritize work rather than teaching at home.

The mentioned view manifests that due to illiterate parents Gurung students are not getting expected achievement in mathematics. The parents do not guide them in house and always avoid to .take responsibility to provide educational environment in the home. The view also show Gurung students did not do homework regularly in mathematics, due to lack of sufficient time at home for mathematics practice and lack of guidance of parents they become weak in mathematics. The constructivism theory exclamation that the students had high achievement in mathematics if there is good educational guidance otherwise the achievement would be low. Looking at the facts one can learn that even if one does not belong to himself, one can learn with the help of others. That statement is believed to coincide with the Vygotsky ZPD theory.

Finally it can be said that the lack of educational guidance at home is another responsible factor for low achievement in mathematics. In conclusion, the main profession is agriculture, it is compulsory to work at home when there is not enough

time to study at home. The main problem was not having enough time to study at home and not being in the house of anyone who assisted math practice.

Socio-economic Status

According to the population census 2011 A.D., 21.7% of Gurung people are living below the line of poverty. Generally the below castes and Janajati are below the line of poverty and among these castes, Gurung is one of the caste who live under poverty. Poverty is an obstacle which effect on every aspects of life. In this present context, the cost of education is very high. The people living under the poverty are not the expected group of private schools. Though the fee is not necessary in government school the necessary things for students like copy, pen, books bags dress and extra class are not provided by school. Educational tours, tiffin and the matters of entertainments are out of reach to the students of poor family which are necessary for students. The poor parents can't provide all these necessary things to their children and this factor affects in the learning process of the students. The social leader of Gurung community gave his view in this way:

"The government has provided facilities to the Janajati students in the school. But these facilities are not sufficient for the Janajait students. The especial economic package should be lunched by the governments to the students of Janajati because the poor parents can't expend money to their students for their education".

(Chairman of School Management Committee)

According to the chairperson of the school management committee Gurung students are itself Janajati students and other arrangements including scholarships for tribal students from the government level have not been able to meet all the requirements. Due to the financial condition of all parents, the students are unable to buy the study material due to lack of investment in education. Therefore, the School

Management Committee wants to provide additional classroom school dress and other facilities to raise the Gurung students from the government level. It is believed that such an advantage can be brought to mathematics by giving such facilities in the educational field.

I asked, what is your family's income sources? The students gave his view as:
"Our family income depends upon agriculture and labor which is not sufficient for us it is difficult to manage daily expenditure of home. We do not have tuition class to improve mathematics."

(Respondents A, B, C and D)

It is believed that such an advantage can be brought to mathematics by giving such facilities in the educational field. From this he says that his children are not educated and their income is not enough to sustain them.

"The main social economic situation here is to cultivate farming and goat and gain financial benefits by selling them."

(Parents of Respondents A, B, C and D)

In view of the parent's assertion, the main source of income was to earn income by distributing agriculture and goat farming and selling the same commodities, thereby educating their children and increasing their income for the study of their child.

To analyze the socio economic factor from constructivism theory. We present case has low socio economic status which causes spending more time in earning livelihood for survival. On the other hand they spend less time in study for mathematics which requires more time to practice but they do not provide more time. In view of the above, socio-economic status is the result of agriculture and lack of adequate income due to lack of financing for additional mathematics classes and

practice of mathematics. As a result the mathematics learning is hindered. These consequences cause low achievement of Gurung students in mathematics.

Occupation. The occupation of the people of this community was their predecessor's profession and daily wages. But this system has changed a little in this day. Some people of this community go to Chitwan, abroad, business in different district. It is very difficult for them to provide the essential matters to their children because of the weak economic status. Some of the children are deprived of getting education from school because of the poverty. The occupation of Gurung community is to work in the field and daily wages which are far from educational background. The occupation also play vital role to educate the people. However, the Gurung occupation is totally different to make or prepare educational environment in the home. There is no relation between education and occupation of Gurung which are barrier or hindrance in education. As a result the student of Gurung community achieved low score in mathematics.

"The Gurung parents depend upon their traditional occupation and they forced their children to do their same occupation. As a result their children spend their time on the traditional occupation due to which they can't give the time in mathematics learning."

(Teachers)

From view of teacher since old-fashioned farming seems to have been spent in many countries, according to teacher, modern farming is done using new technology and tools. Work gets done faster and in less time so that one person can do farming so that he can have time to study the hierarchy.

"My profession is to farming and to be a goat."

(Parents of Respondents A, C and D)

The above view indicates that due to the low economic condition of student's family they are forced to follow the same tradition to sustain their life. This view also indicates that the children of Gurung are interested towards family occupation rather than mathematics learning. Constructivism theory encompasses, the backward cultural occupation which cause low achievement in mathematics. The present case study is also one of the backward ethnic group and having traditional occupation to meet hand and mouth for survival. Naturally it causes low achievement in mathematics. He teacher have following response about the occupation followed by Gurung Parents.

Social Culture and customs. The Gurungs practice a form of Tibetan Buddhism strongly influenced by the pre-Buddhist religion of Tibet, and they also observe major Hindu festivals, such as Dasain. They believe in some tenets of Buddhism and Hinduism, such as karma, yet they have a set of beliefs about an afterlife in the Land of the Ancestors and in local deities that are peculiarly Gurung. Gurungs believe their locale to be inhabited by supernatural forest creatures and by a variety of formless wraiths and spirits. Some of these exist in and of themselves, while others are believed to be the spirits of humans who have died violent deaths. Gurungs believe in the major Hindu deities and in the Buddha and bodhisattvas. Particular villages have their own deities, which are felt to be especially powerful in their immediate surroundings. Religious Practitioners of the pre-Buddhist Gurung religion, called Pachyu and klhepre, are active in the performance of exorcisms and mortuary rites. Buddhist lamas are also important in funerary rituals, as well as performing purification rites for infants and some seasonal agricultural rituals. Wealthier Gurungs occasionally call lamas in to perform house-blessing. Death and Afterlife - Death is of central symbolic importance for Gurungs. The funerary ritual (pae) is the main ceremonial occasion in Gurung society, involving two nights and three days of ritual

activity. The chief priest of the Gurung will be lama or ghampay. Then do all religious work in Gurung communities.

So many Gurung had been diverting from this occupation and are adopting other occupation. The people of these communities had not enough land to Work so they pass this time in unnecessary deeds Tike drinking alcohol, playing cards, and carom board, filthy talks etc. Because of these activities social imperfection dispersed in the society which created negative impact up on their children.

The following responses were obtained when asked how doesocial tradition affects the children's learning.

"We allow them to drink alcohol from childhood saying 'jaatalepaako haatalekhako."

(Parents of Respondents A, C and D)

According to the above, the parents were not interested in the students' education, such as drinking alcohol and making noise at home so that the students would have a don't better environment for students to study at home. According to them in every culture and culture say that "hamro dautalai anibarye raksi chahinx". Spending too much time on alcoholic dancing will not allow children to attend regular school and do not study at home due to their lack of interest in children's education.

"One any social ritual they are bound to go with whole family and it hampers the study in school."

(Head teacher)

From the above headmaster, it is clear that in order to bring about educational reform, the belief that such an old deity needs alcohol has to change and move forward in a new way. It is clear that in order to bring about educational reform, the belief that such an old deity needs alcohol has to change and move forward in a new way. Their culture was not related to the development of education and knowledge.

So, the Gurung parents did not inspire their children much in their study. They seemed indifferent to the field of education but were interested only in the accomplishment. The Gurung children married in their early age and left their study. The students who had deep interest in study could not complete their study because of the cultural environment.

"The students do not pay attention in the classroom because of their psychosocial background, culture and environment."

(Mathematics Teachers)

From the view of mathematics teacher, students spend more time enjoying the dance and entertaining under the festive culture practices and parents also do not show interest in the study. The students are more likely to be absent in the classroom, which shows that the students are not interested.

It is clear from the above statement with the Vygotsky social constructionism theory. In which society and culture are given the same kind of society as the child is given. In conclusion, parents were found to be less interested in their children's reading, while students were more likely to focus on fun than reading. Parents are aware that when children come home with alcohol, the environment for children is not good enough to reduce low achievement in mathematics.

School Environment

All the activities which are conducted in the school came within school environment. It is one of the component to total educational atmosphere. However school is considered as second home of any child where the teachers, students and other staffs play the role as the family members. And the teacher's guide, control and provide information about the book and the current time. The school have to maintain rule and regulation of the school and they have to be formal in school period. No

matter how the school environment is different from social environment, it has deep relation with society. The social environment always affects the school environment as the social environment becomes adverse to the school environment. If the social environment maintains the educational environment in society, then the school environment become good for students to learn about the current knowledge. The school environment includes the physical facility provided by school, teacher student's relation, teacher behavior, teaching method, Encouragement and motivation as well as psychological and instruction part.

Physical Facilities. Physical and instructional facilities are also the important factors which directly link teaching learning environment of school. It pays a vital role of Improvement of student's achievement in mathematics teaching.

Analyzing the data there were enough physical infrastructure like building, classroom, ground etc. but there weren't enough instructional materials in school. Also no guidance for teacher for better performance of student's. Physical infrastructure and environment, however there is no conclusive evidence of the above facts. Thus the role of physical and instructional facilities plays a significant role in the better performance of school. So without managing good physical and instructional facilities in school, one can't improve the student's performance. Therefore, it is also the responsible factor for causes of low achievement in mathematics learning.

School building photo



The physical facilities of school play a vital role in the quality education. That helps to increase the achievement of students. The classroom is considered as a heart and the school as the education system. The school is located within the area of around 8 Ropani, 11 Anaand 2 Dam. The school building was surrounded by Zink now days. Due to the demolition of the first earthquake, the current physical structure is not so good. School buildings are under construction but have not yet been constructed. The school no any provision for hostel and coaching class for SEE appearing students at school.

In the present situation, the library room, practical lab, store room, staff room, teaching materials not enough in this school. There are not sufficient desks, benches, chairs, tables and other essential matters for the school. There is a playground in front of the school. The toilet facility is not available. The clean drinking water and primary

health care is provided by school Red -cross society. The following opinion was obtained about the learning materials available on school.

"The school has not enough teaching materials for mathematics and science lab. Also, the school's future plan is to manage required materials and some computers for teaching and also for official use and add more books on the library."

(Head teacher)

Above view shows that, there was not sufficient infrastructure present time in the school. But according to the head teacher point of view, they don't have sufficient teaching learning materials for mathematics. In spite of science lab, ICT lab, library and other facilities in the school. Student get change to involve in the different activities. But in the library there were no mathematics books. Therefore, the achievement of students at mathematics was very poor.

"The school collapsed by the earthquake is under construction, now the classrooms of management are not so good. So has not any reference books related to mathematics. Only text book is read. Also school has no teaching materials. I am trying to use materials available in local area but they are not enough. I encourage students to study reference and practice books from different source."

(Mathematics teacher)

Similarly, according to mathematics teacher's point of view, Due to earthquake the physical structure of the classroom has not been well managed which can be seen even when studying the physical structure of the live school. There were no reference books in the library which were related to mathematics. Due to lack of sufficient related materials in the school he\she cannot teach effectively. So that the achievement of students at mathematic was low rather than other subject , it shows

that the teacher used no cost low cost materials while teaching mathematics but such materials are not enough for better achievement.

"Due to lack of school income, we have not been able to buy educational materials."

(Chairman of School Management committee)

According to the School Management Committee, the financial condition of the school is not enough so that we are not able to arrange educational materials including ICT in the current age of science and technology.

Also the students are agree with above views by saying *"our school has no good physical facilities, building, furniture, toilet drinking water etc. also our school has a library but there is not reading materials related to mathematics and science lab"*.

Likewise, the student's views shows that, there were enough infrastructures in the school but they didn't have sufficient reading materials in the school library, so that their learning achievement at mathematics was very poor.

From the above facts, it was concluded that lack of physical facility, mathematical instrumental materials and infrastructure has affect the mathematics achievement of the students. As social constructive states that individual creates meaning through their interaction with each other and with the environment they live in. In conclusion, the management of the classroom was not good enough. Similarly, the email was not available on the Internet and ICT was not required. The mathematical educational materials were not sufficient in the school, and theoretically, they were highly educated. Even though the library was not well organized, mathematical materials were not available.

Teacher Student Relation. Teacher is the fate maker of students and she is the guide of student's educational progress. So, the teacher's behavior toward the students

affects in every individual's learning. In the classroom practice, the relation should be co-operative and supportive for mathematics learning. The interaction between teacher and students, students with students refers the relation in the classroom. Students always becomes co-operative and teacher becomes a facilitators in the classroom practice.

The teacher and students relation is one of the relation which happens in school. Teacher student's relation should be respectful and cooperative to each other without using any self-interest. Teacher should be cooperative and helpful to keep relation last long with the students. On the other hand the students should be faithful and keen interested to learn something from the teacher. Which keeps relation strength forever. The relation is a condition where both of them should keep their promises to be last long. The respondents have following opinion to the question why do the Gurung students get low position in mathematics.

"The school does not understand when mathematics is teaching, they do not ask questions, and they are practiced at the bottom of the school. Gurung students do not keep interest in mathematics they always absent in mathematics class and if they appear in the class they take back seat. Similarly do not ask students to understand which mathematical content is upset"

(Mathematics teachers)

From the View of the mathematics teacher that no response was given to the students who did not understand mathematical confidence. Students found that they did not know mathematical subjects, fear of asking the teacher. There was a tendency for students to refrain from asking the teacher and participating in mathematical exercises if the student was not interested in what the teacher said and did not understand the classroom teaching activities.

"The interaction between teachers and students is low. It was better to study mathematical subjects through educational material."

(Head teacher)

The Head teacher views it clear that mathematical achievement is very weak and that teacher and student discussions on mathematical content are low. His view that educational content leads to more user discussion is seen by students not discussing subject matter with the teacher.

"We do not understand when we start teaching the same lesson as we do not know mathematical basic knowledge. And the teacher and the relationship between us are good, asking the question we do not understand, the teacher responds well."

(Respondents A, B, C and D)

According to the students, we did not understand that when we did the teaching directly without taking into account the student's foundation and we did not have the basic knowledge related to it. He also said that we did not show interest in those subjects because we did not understand mathematical confidence. When the teacher says that he does not understand this, he says that he does not know even that he does not know the basic knowledge of the lower grade and that he does not know the basic knowledge and we do not understand.

The constructivism theory analyzes that the teacher and students relation should be good to progress in mathematics but the above views shows that there is poor belief of teacher towards Gurung students. Their relation does not seem to be dependable and cooperative to each other which harass the progress of the students in mathematics. Which is one of the reason for low achievement of Gurung students in mathematics.

Dominance of Language. Language is a medium of communication without language we can communicate. In the context of Nepal, Nepali language is the medium of instruction. The dominance of language would mean the hindrance of first language by second language. Here the Tamu language is the first language for Gurung students but they are imposed to speak second language Nepali, in the classroom and while interacting with the teacher. So they fell some difficulty to understand second language they do not understand simple idea about mathematics if the teacher pours the idea in second language.

"Due to the linguistic problem arithmetic under mathematics, we can't easily understand to verbal problem of mathematics question. Similarly even though the mathematical teacher is changing, we have a difficult problem in language."

(Respondents A, B, C and D)

According to the students, we have difficulty understanding the mathematical languages under the Mathematical World Object as we have difficulty in understanding mathematical languages, as the teachers of mathematics are changing, we have difficulty learning due to changing teaching methods and languages.

"At home we always speak gurus when discussing with family at home."

(Parents of Respondents A, B, C and D)

According to the parents, excessive use of Gurung language was found to make the students weak to understand Nepali. In view of this, the difficulty of the literal problem under mathematical language is reduced by the difficulty in the achievement of the mathematical subject.

Agreeing to the above statement, the teacher also said that students have difficulty in mathematical literal problems while speaking Gurung language in the society.

According to him, since my language is in harmony with the language here, teacher says that the students are not very clear when teaching mathematics.

The view shows that the culturally backward ethnic group Gurung community uses Gurung (Tamu) language to their relatives, parents, friends and Gurung teacher except the people of other community. But they are imposed to use second language to learn mathematics. This shows that the dominance of mother tongue is reason for low achievement.

Encouragement and Motivation for Gurung Students. Encouragement is a factor of school and home environment. However, it inspires the students to learn something which are out of interest or matter of interest for the students. The students get less encouragement by the parents to go to school. However, the weak students in mathematics have no extra to create interest to learn mathematics. On other hand they get no encouraged environment to learn mathematics in the house. The school offers a little bit encouragement in the class which is not sufficient for learning. The teacher or parents do not anything for encouraging the failed students. Motivation is the foundation of learning which encourages, make and excite the person to learn from inner self. It activates the person to learn positive things. Motivation becomes one of the prominent factors to learn mathematics which bring high achievement in mathematics.

The teacher behavior student is every individuals learning mathematics. The use of reward and punishment use enough instructional materials in the class to motivate the students. The parents don't care about their children's study this the student's don't care about study. Thus the students are not interested in the study at home. The parent's should be encouraging students to go to school regularly.

Mathematics is very much practices- based subject. Students may get a concept in the class room, but they certainly lose if it is not encouragement by homework.

"Most of the students have poor performance in mathematics. Some come from another lower secondary school to get secondary school's education. They have no per-knowledge about mathematical skills and concept. In this condition how the better result achieved?"

(Mathematics teacher)

"We cannot complete homework checking and class work checking of all students every day. We can't even ask them individually about their homework and mathematics problems. Student's participation is also troublesome in classroom."

(Mathematics Teacher)

According to mathematics teacher, many students are weak in mathematics. In this way, the basic mathematical assumption that many students have at the lower secondary level should be given mathematical basic assumptions in the absence of secondary level students. As a result, the idea that students should not know the basics of mathematics, while giving the idea of a lower secondary level at the secondary level, is one of the weaknesses of education. Mathematical homework are not always checked, students who do their homework know that students are moving away from students who understand and solve mathematical problems who do not understand, who do not understand and who are less interested in solving mathematical problems.

Do you get parental support and encouragement to learn mathematics?

"I always feel difficulty in solving mathematics problem as a result I hate mathematics but I do not find any encouragement from the teacher and parents to learn mathematics".

(Respondents A, B, C and D)

According to the students, it is difficult to do mathematical problems and it is difficult to solve the problem and when there is failure of mathematics in the exam, interest in mathematics has decreased. In order to stimulate interest in mathematical subjects and to succeed in mathematical subjects, the teacher and the teacher have the student, without taking the same corrective factor. Looking at it this way, there was no new way of corrective pursuit for weaker students in mathematical content.

"They are always anxious to learn but we do not have knowledge to provide any suggestion for encouragement to learn mathematics."

(Parents of Respondents A, B, C and D)

In view of parent's assertion, even if result had shown that the students were weak in mathematical content, the teacher could not take any suggestions that should be corrected after the teacher had failed to give mathematical knowledge.

The above mentioned view shows that the parents are uneducated and do not have knowledge to suggest or encourage students to learn mathematics. Gurung students are not afford to create curiosity to learn mathematics. Constructivist theory elaborates encouragement and motivation which is the basic component to enhance the progress in students to learn mathematics but there is lack of encouragement and motivation which cause low achievement in mathematics.

Teaching Method. Mathematics is the subject of practical knowledge, so the sufficient use of teaching materials are necessary in the study of this subject. The experienced teacher can make his class effective. The students can understand the problems if the teacher use the tricky methods. A trained teacher can attract the student's towards the mathematics on the base and different teaching skills in teaching learning process. A trained teacher can use rightly and appropriately the teaching materials and makes the teaching learning easy and interesting.

The teaching learning process can't be effective in mathematics classroom if there is not chosen appropriate method. How the students can easily understand the solving process is important: In mathematics teaching many methods are being used like problem solving, discussion, question answer, practice, experimental, discovery etc and which method to use always in problem solving depends on teacher's experience, qualification, training and so on. It is better to use students centered approach than teacher centered approach while teaching mathematics.

Episode: 1

The teacher went to the class first, and then the researcher also entered the class. All the students stood up and said good morning sir. The teacher told them sit down. There were 11 students out of 17 in the class ten. Physical environment of classroom was middle. When the teacher started to teach mathematics, he reviewed the previous lesson of simplify then wrote a problem form textbook and solved the problem in the whiteboard by explaining it step by step. After one demonstration, he gave one more problem to the students to solve. The teacher then just walked among the students and guide them who could not do anything. Despite the capacity of a joint venture, the capacity of another class, however, is made at that time the classroom environment was seen disturbing with noise. Mostly in the process of teaching teacher used method and strategies was lecture and practice method in the teaching of mathematics. This episode shows classroom environment is controlled by teacher according to his method or strategies in the classroom.

The physical structure of the classroom was not that good when looking at the classroom while teaching mathematics. The physical structure of the classroom was not that good when looking at the classroom while teaching mathematics. While teaching mathematical content, the teacher paid more attention to the theoretical

aspects and also taught the subject through lexical methods in which, due to the lack of educational material, the teaching of the educational materials was not done in the experimental way. The teacher went through the teaching activities, the student understood without discussing it and found no response. In conclusion, the teacher is more focused on teaching and the student is more passive in the discussion and the teacher has more lecture on mathematics and sometimes used only problem solving method. Considering only the mathematical theoretical aspects, student participation may be considered less achievable when there is not enough student participation.

It can be concluded that from the observation of classroom, the teacher mostly used lecture method. Though, sometimes I found him with using problem solving method but it was not sufficient. Student's participation was poor. The classroom environment was authoritative. The class lacks students' friendly environment. Thus conclude that traditional type of lecture method was one of the cause for low achievement.

Episode: 2

Grade X was selected for observation time period was ten a. m. After the researcher entered the class, the student stood up and said "Good morning sir"

The researcher told them to sit down. it was notice that the school environment was respectable to the teacher. There were 15 students in a class. The desks, benches were not sufficient for them but classroom is not good there. The white board was on the proper place on the other hand the teacher started teaching mathematics without even warm up the reviewed the previous lesson, wrote some problems from the text book and solved the problems on the black board which was not clean and could not see by the back benches. Usually teacher opened the text book and asked the homework but only 25% students raised their hands. Then he

collected the homework and writes the topics which as “construction of triangle of grade X and explained the basic rule and property of triangle and parallelogram after writing on white board. Teacher wrote one problem related to construction of triangle, but there were no construction materials. All students were engaged on copying the blackboard and asked the question to the students, do you understand? if no, he repeated the above process again and gave another problem to the students for individual practice. Teacher just moves among the student and observed their activities and did not any direction for this problem. He just looked the mistake of the students on their copy. if he did get mistake only 20% correct the problem and no one asked the question, he again came to the blackboard and did the problem by the above process. Lastly teacher exited from classroom to tell that solve the problem of exercise with carrying the homework of students.

The above views of student and teacher indicate that there was a lack of active participation in students. Most of the students were weak in mathematics because of various problems. Students were not interested in mathematics and their concentration is only on playing and talking which was serious problem of school.

Above observation proved that there was no active participation and discussion between students and teacher in the classroom, means that students are very weak in mathematics. He evaluates the student’s performance by giving class work and homework. Similarly, the researcher observes the other four episode of classroom observation and finds that the same activity of teacher and students. There was no change in the method of teaching used by teacher in the classroom. He was using same teaching learning approach for all observation. There wasn’t active participation of teacher and students in the classroom. So, there is a debt between

teacher's views and behavior. He stated that he was using student centered approaches.

Episode: 3

"It is the observed class in the mathematics teaching at class X One day the math teacher enters the classroom as the other days with the daily used materials, He wrote the topic 'menstruation' from class X and explains the basic ride and property of different plane figures. He draw some plane figures and solids and he gave students opportunity to discuss on the properties of planes and three dimensional objects for individual practice and moving around the students but only few students were active in the discussion and other were making noise. It was due to the lack of teaching materials need for teaching of menstruation. He again came to the whiteboard and distinguishes the properties of plane and solid objects. Lastly, teacher exited from classroom giving some problem of exercise.

approach for effective learning. Further no any teaching materials were used. This shows that there is no sufficient teacher competency in math education.

Episode: 4

The teacher went to the class first, and then I also went to the class. All the students stood up and said good morning sir. The teacher told them sit down. There were 12 students out of 17 in the class. Physical environment of classroom was not good when the teacher started to teach mathematics, he reviewed the previous lesson of simplify then wrote a problem from textbook and solved the problem in the white board by explaining it step by step. After one demonstration, he gave one problem to the students. The teacher then just walked among the students and guided them who could not do anything. At that time the classroom environment was seen disturbing

with noise. Mostly, teacher used lecture/cum practice method in the teaching of mathematics. This episode shows classroom environment is controlled by teacher according to his method of strategies in the classroom.

It can be concluded that from the observation of classroom, the teacher mostly used lecture method. Though, sometimes I found him with using problem solving method but it was not sufficient. Students participation were poor. The classroom environment was authoritative. The class lacks student's friendly environment. Thus we conclude that traditional types of lecture method was one of the causes of low achievement.

Interest of Learners

Interest is everything to do anything. Nobody can do anything without interest. Though, man born without his interest, he gets success in his interested area. So interests are determined by the activities of the society. Along with the development process, the area of interests is being increasing in the people. Interest always depends upon an individual. To be succeeding in every aspects of the life, education is vase. Basic education is needed for all the either they are interested or not in the study. How much mathematics achievement the students obtained depends on how much the student in interested in mathematics. If the student is interested in mathematics. And ultimately scores high in this subject. Those who are not interested in mathematics they pay less time to the mathematics problem solving and get lower achievement.

"Generally most of the student's per-knowledge is very poor, they don't have sufficient knowledge. Therefore they are not interested to learn and they shy to interact in mathematics teaching period."

(Mathematics teacher)

"I don't like mathematics because I feel it very difficult and I want to play volley ball than study."

(Respondents A, B, C and D)

"Understand nothing of mathematics. I have low grade in every grade. So I don't study mathematics at home."

(Respondents A, B, C and D)

"I never tried about the depth study of mathematics because it is not compulsory for higher education. I think to leave mathematics in higher class if I just passed in SEE examination."

(Respondents A, B, C and D)

Looking at the statements of mathematics teachers and students, the basic knowledge that is required to be learned at the grassroots level is very low. This makes it difficult for students to understand the mathematics of secondary level and less interest. Mathematics teacher says that it is difficult for students to practice more in mathematics. According to students, mathematics is more difficult because they focus on sports rather than practice mathematics. Students point out that they do not understand pre-mathematics and do not like to read at home when they come to low achievement in mathematics. There is no competition for good numbers in mathematical subjects and the notion that mathematics should not be read in upper classes if the SEE exam is passed will result in less importance for mathematics such that the less interest in mathematical subjects.

In view of this, the above statement is in line with Constructivism theory which gives the impression that the student's interest should be tailored to the needs and that the teaching activities can be carried out only if the student is interested. From

the view we concluded that the case students are not interest in mathematics learning. They feel mathematics subject is only for talent students.

Assessment Technique and Community Relations

Teaching is considered an art. A well trained teacher only can use different instructional techniques in the class room to address for all cognitive level students. Before going to classroom, systematic plan is necessary to achieve the goal. The plan about objective. Assessment of students into classroom had usually been implemented and measured using limited forms of tasks generally referred as "pencil and paper test" emphasizing logical process of calculation, deduction and organization skills. Also, the teacher had adopted the questioning techniques during assessment of students. There is a growing agreement in research that the role of assessment as well as participation of community is affecting the achievement of students. Yet there is a lack of active relationship of parents with school. The following responses were obtained, when I asked about the assessment system of school.

"The school conduct examination three times in a year to assess and measure the achievement of students. But other forms of test like unit test depends upon the subject teachers."

(Head teacher)

According to the Head teacher, we say that we take the exam three times a year. Formally, we take the exam three times and review its achievements with the parents and discuss how to proceed.

"Now, I am evaluating how much the students understand through daily work and homework and I am planning to take unit test regularly from this month."

(Mathematics teacher)

In view of the teacher's the given by taking classroom work on a daily basis to evaluate or understand the mathematics subject and we have also planned to take the unit test. In view of the teacher's statement, the main means of evaluation of the students were daily classroom activities and homework.

"Teacher gives homework daily but checks it as the end of unit. If we do not complete the homework than he beats us but never check in the classroom. The teacher checks homework after a long time so we cannot correct it if it is wrong."

(Respondents A, B, C and D)

In view of the student's statement, the main means of evaluating the student was found only because the class was functioning. The expression of Head teacher, math teacher and students shows that there is lack of continuous assessment system in school. There is a lack of reinforcement and encouragement. The teacher only punishes so the students had negative attitude towards the mathematics teacher. The teachers have following responses to the question. Does the parents visit the school regularly to know about their children progress?

"We provide student's progress card to the parents at the end of the every exam but interested parents can see their student's progress with consulting to the class teacher at any time". As far as I look at the result, mathematical retaliation is not so satisfactory."

(Head teacher)

According to the Head teacher it is clear that not all parents are interested in home towards the student's education. Parents found that students did not come to the school to discuss the results of the mathematics subject and that the results were infrequent. What to Do to Poor Students Parents of weaker students discuss what needs to be done to improve educational performance in schools. In this way, parents

do not appear to discuss what they should do to raise their child in mathematics, so that the result of mathematics is very satisfying.

"Very few of the parents meet me and consult about their child's mathematics learning and the lower parent seems to be interested in her own daughter's and son's."

(Mathematics teachers)

According to the above mathematics teacher, many parents should not come to the conclusion of the achievement of the children in the exam. Whether they are not interested in studying children or not, why parents like to learn how to improve their child's achievement in mathematics subject does not come from discussing how my child is low achievement in mathematics subject it is clear from what the teacher said.

From above information it was found that the school prepares all this student's progress card on time but there was a communication gap between parents and school. Parents found no children interested in reading about what their child was going to school. Most of the parents do not regularly consult to the teacher about their children's progress. Thus, it could be said that the school should maintain the proper communication with parents.

School's Policies for Low Achieved Students

A school administrator is an educational leader who has responsibility of developing, communicating and implementing school policies. He promotes the success of all students by facilitating the development, articulation, implementation and stewardship of a vision of learning that is shared in supported by the school community. ` School's policies plays great role in the improvement of school. A critical study of all aspects such as administration, community relation, student's performance, staffs relation, teacher's arrangement, and Manage educational content,

all management of physical structure etc and development of operational policies can reduce all the problem that may be observed at school. The following are some of the representative responses of head teacher, math teacher, and parents about the questions.

What type of strategies can be managed by school for low achieved students to improve achievement?

"First of all, management of secondary level teachers and providing consciousness to parents and mathematics per student and manage educational content as well as manage the use of ICT."

(Head teacher)

"To improve academic reform, teachers, teachers, guardian school management committee, and all stakeholders, discuss and proceed."

(Chairman of School management committee)

The school management committee believes that there will be educational reforms going forward due to the inconsistency of the teachers' guardian school management committee and all the people belonging to the school. Thus, there is a policy plan for all parties to work together to bring about mathematics learning achievement.

"Now my aim is to teach weaker students about mathematics subject clear the mathematical basics knowledge in additional class. Now we are planning to take internal test at least twice a month."

(Mathematics teacher)

According to the mathematics teacher, the student is only 6 hours in school time and the remaining 18 hours is out. So at other times the student does not have sufficient knowledge of mathematical basics and must be given basic knowledge by making

additional class arrangements in school. Towards achieving that mathematics subject for plan of mathematics teacher.

As stated above, the Vygotsky ZPD theory, in which the notion that the student can learn and understand with the help of the self-study is in link with the ZPD theory. The above views indicates that a lot of improvement have done from this year and the process of improvement are still in continue. The result of reforms cannot be more analyzed due to the beginning of the implementation. But, the vision of school were clearly defined among teachers, parents, students and communities.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATION

The main purpose of any research study is to pose a problem, finding the cause of problem, analyzing them and to show the finding. Thus this chapter deals with the summary of the research, major finding of the research and conclusion and recommends for further study. The first section levels the summary, the next section list the major finding and conclusion derived on the basis of research analysis and finally presents recommendation for further study.

Summary

This was a case study related to the difficulties and causes of low achievement in learning mathematics of Gurung students. The main objective of this study was to explore the causes of low achievement of Gurung students in mathematics of Gurung students at Secondary level. To fulfill the objective of the study and to analyze and interpret that data, the researcher has developed the conceptual framework in literature 'review altogether. The researcher had done the different activities and complete this objectives like classroom observation, school document analysis, in depth interview. The researcher has maintained the reliability and validity of these tools with the discussion of subject experts, supervisors and educational researchers.

This case study was based on qualitative research approach. To investigate the causes of low achievement in mathematics, the population of the study consists of all secondary level Gurung students at grade ten in the academic year 2076 of Gorkha district. The sample of the study was taken from Shree Himali secondary school, Siranchowk-6 of grade ten. Four low achieved Gurung students (two boys and two girls) were taken on the basis of mathematics score of previous exam as the case students. The researcher used mainly these tools to collect the data, they are case

study. To analyze and interpret the data at first the collected information was categorized according to the category. The different themes were considered as a code, the similar code version of the respondent were collected together and explained in their perspective. Cross-match and triangulation was adopted to maintain the validity and reliability of the information. The analyzed data were interpreted by using the framework the researcher developed in literature review altogether.

Findings

Finally the recorded information was analyzed and obtains the following findings.

- Most of the Gurung parents were illiterate and they use their children as a means of earning to support their family.
- Because of drinking alcohol in the house, the environment is disturbed to the student in the learning.
- In home environment parent's education, poverty, gender bias, lack of study hour, behavior of the parents were the causes of low achievement.
- Household work becomes one of the burning problems for the students to study.
- Besides the learning, the Gurung students participate more in the sports and cultural activities.
- The physical structure of this school, which was delicate due to earthquake, was under construction.
- After the earthquake roof of classroom was not favorable. It was heated in summer and noisy at rain season because of inflates.
- Apart from drinking water in the school, essential aspects like library educational materials toilets were not arranged.

- The teacher have equally behaved the students. Mathematics teacher had not motivated the Gurung students in mathematics class.
- The relation between Gurung students and teacher was not seen to be dependable and cooperative to each other.
- The student be difficult to understand mathematical problems and teacher loss their confidence say that the mathematical subject is very hard.
- The student's competition for the study was relatively little and the student's interest in Mathematics was found to be lesser.
- Gurung students are not get encouraged and motivated at home and school.
- The use of teaching materials in mathematics class by the teacher is very less. There is only the use of the teacher centered method.
- The teachers of the secondary level do not have any such arrangement, because the teachers are changing the way the teaching method has been changed.
- The method of evaluating the achievement of students at school were only terminal, half yearly and yearly exams. However, the teacher used to give homework daily but student were facing the problem in delay of checking the copies.
- The school was trying to reduce problem of mathematics failure by managing extra classes in the morning and evening.
- Most of the people of Gurung community passed their time in unnecessary deeds like drinking alcohol, playing cards and carom board and filthy talks.
- School has a continuous communication gap with guardians.
- The school has vision of cooperative relationship with guardians but few of the guardians were found to be active.

Conclusion

The researcher concluded that the low achievement in mathematics of Gurung students from the sample school, analyzing with the themes and related document. It becomes the focal point that has affected the everyday life of Gurung students. Comparing to other students of Gurung Student, there are many factors that affect mathematics achievement of Gurung students.

Although the school In the present days seems to have qualified teachers but the teacher seems to be unable to maintain indifference and promote slow learners in teaching learning activities. Teacher's classroom behavior, illiterate parents, language, economic status, interest of learner, assessment technique, teacher student relation, culture they followed, leaning environment at home, less participation in learning activities were the main causes bringing the low achievement in mathematics of Gurung students. To resolve the failure rate in mathematics new policies of the ' school seems to have better educational attainment if the total school family cooperate each other and support from own area.

At last, causes of low achievement of Gurung students in mathematics. That are not follow to be interested in mathematical content, Students should make mathematical practice lesser and study environment not good at home. Similarly, due to lack of interest in parents of their children, parents are also vulnerable. The most important part is that the pump does not improve the physical structure due to excessive pumping and the mathematical practice of the student is in the main causes of low achievement in mathematics.

Recommendation

Since Janajati student are suppressed, it is very difficult for them to maintain social decorum in the society; similarly they cannot go equally with others because of

their socio culture norms and values. To make Gurung students independent of awareness should be brought. The school and to all rural and urban areas due to the limitation contained in this study. Thus, after analyzing and conclusion and implications of the study the researcher has made the following recommendations or suggestions for further study to validate the present study's findings.

- In other Janajati, due to the students' lack of mathematics, we are studying
- This study was done only in Gorkha district as a case. For the generalization of the result of the study, similar study should be done in a wide scope and large sample.
- The causes of low achievement of Gurung students in mathematics learning have been included in this study. The researcher who wants to study on the Gurung community should identify the affecting factors and solution of failure in mathematics.
- Generally the academic status of Gurung in every region is not same so the test would be better to compare Gurung students of urban area with that of rural area.
- A study can be done on the effect of parent's education in their mathematics achievement.

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Appendix-A

Individual Student Record

Name:

Date:

Roll No:

Class:

Address:

Age:

.....Province.....District.....RM/MP

.....Ward No.....Village.

Name of school:

Girl/Boys:

Religion:

Position in previous Class:

Number of Family Member:

Father Name:

Occupation:

Education:

Mother Name:

Occupation:

Education

Aims of life:

Appendix –B

Interview Format for Mathematics Teacher

Name:

Date:

Qualification:

Address:

Experience in Teaching:

Age:

Interview guidelines

- Teaching Strategies to Gurung students.
- Problem in Teaching Gurung Students.
- Encouragement and motivation to the Gurung students.
- Participation of students.
- Teacher Students relations.
- Dominance of language.
- Teaching learning environment.
- Teaching method.
- Teacher views about Gurung Students.
- Student learning habit.
- Use of homework and class work.
- Facilities provided by school.
- Extra class for low performer.
- Teaching and learning practices environment in the school.
- Causes of low achievement in mathematics.
- Policies for low achieved students.
- Relationship with guardians.

Appendix-C

Interview format for Students.

Name:

Date:

Roll No:

Class:

Address:

Sex:

Interview guidelines

- Teacher behaviour toward them.
- Opportunity to learn at home.
- Opportunity to learn at school.
- View towards mathematics teacher.
- Family background/support.
- View about mathematics/language.
- Homework and class work.
- Family support in learning.
- View about school environment.
- Regularity in school.
- Opportunity provided by school.
- Teaching method.
- View towards cause of low achievement in exam.
- View towards school policy for low achieved students.
- Income sources.

Appendix-D

Interview format for parents.

Name:

Date:

Qualification:

Occupation:

Age:

Sex:

Name of his/her Child:

Address:

Incomes:

Interview guidelines

- Individual description.
- View about language.
- Parents view about language.
- View about school and teacher.
- Obstacles of Gurung student in school.
- View about cost of education.
- School and home environment in learning for students.
- Guidance of mathematics learning.
- Occupation of the family and there income sources.
- Expectation from school.
- View towards school facilities and polices.
- Culture they followed.

Appendix-E

Interview Format for Head Teacher

Name: _____ Date: _____

Qualification: _____ Sex: _____

Experience in Head Teacher: _____ Age: _____

Address: _____

Interview guidelines

- View towards Mathematics achievement.
- View towards socio-economic background.
- View towards low achievement of students.
- View of School facilities.
- View Relation between staff and students.
- View towards Policies of low achievement students.
- View about Relationship with guardians.
- View Classroom management.
- Ask of Role of school management committee.
- View towards Evaluation of students learning difficulties.
- Use of instructional teaching.

Appendix-F

Interview Format for School Management Committee

Name: Religion:
Qualification: Post:
Experience in this post: Age:
Address:

Interview guidelines

- View towards Physical facilities in this school.
- View about the status of the educational material.
- View towards socio-economic background.
- View towards low achievement of students.
- School facilities.
- Relation between staff and Management committee.
- Policies of low achievement students.
- Relationship with guardians.
- Classroom management.
- Role of school management committee.
- View about assessment technique and community relation.

Appendix-G

Main topics of observation areas.

- Regularity of Gurung students in mathematics class.
- Regularity of mathematics teacher in class.
- Learning behaviour of Gurung students.
- Learning environment at home.
- Learning environment at school.
- Friend's behaviour towards the Gurung students.
- Student's involvement in household work.
- Participation of Gurung student's in teaching learning process.

Appendix – H

Class Observation Form

Name of Teacher:class.....

Subject:Topic:

Legends: 3-Strong 2-Apparent 1-Non Displayed

1. The teacher plans effectively and sets clear objectives that are understood.	3	2	1
i. Objective are communicated clearly at start at the lesson.			
ii. Materials are ready.			
iii. There is structure of the lesson.			
iv. The lesson is reviewed at the end.			
2. The teacher shows knowledge and understanding.	3	2	1
i. The teacher has through knowledge of the subject content covered in the lesson.			
ii. Instructional materials were appropriate for the lesions.			
iii. Knowledge is made relevant and interesting for pupils.			
3. Teaching method used enable all students to learn effectively	3	2	1
i. The lesson is linked to previous			

teaching or learning.			
ii. The ideas and experiences of the students are drawn upon.			
iii. A variety and explanations are clear and specific.			
iv. Instructions and explanation are clear and specific			
v. The teacher involves all the students, listen to them and responds appropriately.			
vi. High standard of effort, accuracy and presentation are encouraged.			
4. Students are well managed and high standard of behavior are insisted.	3	2	1
i. Students are praised regularly for their effort and achievement.			
ii. Prompt action is taken to address poor behavior.			
iii. All student are treated fairly.			
5. Pupils work is assessed thoroughly.	3	2	1
i. Students understanding is assessed throughout the lesson by the use of teacher questions.			
ii. Mistakes and misconceptions are recognize and used constructively to facilitate learning.			
iii. Pupils written work are assessed			

regularity and accurately.			
6. Homework is used effectively to reinforce and extend learning.	3	2	1
i. Homework is appropriate.			
ii. Homework is followed up if it is set previously.			