

Chapter: I

INTRODUCTION

Background of the study

The term mathematics is etymologically derived from the ancient Greek word 'mathenian', which meant "to learn". Golt and Futterman (1982) stated knowledge of mathematics is indispensable to our daily life, counting object, reading and writing number, performing arithmetic calculation as well as reasoning with numbers are tasks most people perform in their life. This shows that mathematics is taken as a process of learning. It has been explained in other ways also such as, it is the numerical and calculation part of man's life and knowledge.

People have been using mathematics from the very beginning of human civilization. It is believed that mathematics was originated along with the origin of human. Human beings themselves created mathematics in the need for application to counting and measuring in relation to both of quantities as well as spatial objects. It is no exaggeration to say that the history of mathematics is the history of civilization. Long time ago, man first wanted to answer the questions, how many? how much?, how long? and how big? Its learning helps students to understand and interpret the important quantitative aspects of living. Thus, the knowledge of various branches of mathematics was born to fill the needs of man and to introduce great range of its application.

Mathematics got developed through the ancient civilizations like Babylonian, Egyptian, Roman, Greek, Arab, Hindus and the mathematicians Pythagoras, Euclid, Plato, Archimedes, Cantor, Newton and Gauss contributed for its development of mathematics.

It is not easy to say when and from where mathematics had started but we can see the mathematics as an essential part of human civilization and so will be born with the evaluation of human being. It will create to fulfill the daily need of human life and thus the nature and structure of mathematics will be built with the development of human civilizations (Acharya, 2017).

Mathematics is likely a language, which is a basic tool of communication. It is essential for everyday, everyone on their life. It is the base of higher study not only in the field of science and technology but also in the fields like economics, management, industry and psychology. In general mathematics helps people to understand and interpret. In the present curriculum system, mathematics is made one of the core subjects, which has been introduced from grade one to ten as a compulsory subject. Mathematical skills should provide support to every society for development. As a whole mathematics increase the logical thinking, understanding capacity and efficiency in human being. With mathematics people experience it easy to live in this world.

Magar Ethnic People

Genetically and physically, Magar people are mongoloid East Asian. They are believed to have migrated from Tibet like the Gurung and other prominent ethnic groups. The Magar are an indigenous ethnic group of Nepal whose homeland extends from the western and southern points of the Dhaulagiri section of the high Himalayas range south to the prominent Mahabharat foothill range and eastward into the Gandaki basin. The original home of the Magar was called Sapta Gandaki. The twelve regions of Magar, which included all of the hill districts of Lumbini, Rapti and Bheri zones. The

Magars have spread all along the hills of east Nepal and to a few places in the eastern Tarai.

In Nepal there are several number of people identified themselves as Magar people, representing 3.45 % of Nepal's population (CBS, 2011) which is the largest indigenous group of Nepal. According to the 2011 census, 74.60% of ethnic Magar are Hindus and 24.47% are Buddhists. Dhanagadhi is the headquarter of Kailali District, covers an area of 3,235 square kilometers (1,249 sq), which is situated at far-western development region. According to district development committee of Kailali total population 7,75,709 among them 29,054 are Magars which is 3.75 percent of total population. The main occupation of Magar in this area is farming and military service. The technique of farming is traditional and unsystematic, so they have been facing food scarcity every year.

The basis of Magar economy in all areas is agriculture and military. Some also work as craftsmen, either as carpenters or stonecutters. Magars constitute the largest number of Gorkha solders outside Nepal. Every Magar village has a number of Gorkha on active duty in India and Malaysia as well as retired solders drawing pensions from various military sources. Magar are renowned for their honesty, discipline and good humor which account for their military success.

In the recent years, it is well documented that parents role, psychological factor, parent's beliefs, student beliefs towards mathematics are powerful influencing causes in student's achievement. Parental believed is motivational factors that highly affect mathematics achievement of their children. In the many years old history of office

of controller of examination (OCE) of Nepal, the pass percentage of S.L.C rarely crossed 50%. The achievement level of primary level student in mathematics is 43.81. The S.L.C result shows that there is a gap between the expectation and output. In S.E.E. 2073 the pass percentage of fifteen district was below thirty in mathematics but in the year 2074 the pass percentage is only 43.80 among regular and 18.86 in compartmental, unfortunately the pass percent of public school is only 30. Among those failures, more than 90 percent is in mathematics only. Above results show the poorest achievement in mathematics.

Primary school is the beginning phase of the child education it is foundation for them to reinforce their future education plan. Without being good foundation of primary education, no children progress in secondary level result. It has its own significance to know about the consequences of the exam of grade V. The following table shows the grade V result in mathematics of Shree Saraswoti Secondary School of past five years.

Years	Total student appeared	Passed students	Passed %	Total appeared Magar students	Passed Magar students	Passed with grace marks Magar students in maths
2070	20	14	70	5	1	4
2071	18	15	83.33	2	-	2
2072	26	14	53.84	6	2	4
2073	33	23	69.69	8	3	5
2074	31	24	77.41	5	1	4

Source: School document

The above table shows that the Magar students are passed with grace marks in most of the exam and there were low participation of Magar students. From the above

table 2071 B.S, 15 students i.e. 83.33% which is the highest number of success in the grade V exam. The lowest numbers of student were passed in 2072 B.S. only 53.84%. As the result of the analysis of five years data, I found that through they have showed their presence in school, they are few in number and even in that number they passed with grace marks grade V in the year 2070 and 2074 B.S. So there was low participation as well as low achievement in mathematics of Magar students.

It was also found that most of the school students failed in district level examination or sent-up or in SLC examination was due to the failure in mathematics rather than other subjects. From the above table, most of the Magar students of grade V were passed with grace marks in mathematics. So, I am going to find out the causes of Magar students' low achievement in mathematics of in primary level.

Statement of Problem

A problem might be defined as the issue that exists in the literature, theory of practice that leads to a 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 was concerned to explore the causes of Magar students' low achievement in mathematics. Magar students are educationally backwarded, deprived from opportunity group and have faced different problems in mathematics learning. The school annual result shows that the achievement in mathematics is lower than the other students in primary level. In the modern world, all the science and technologies depend on mathematics knowledge so mathematics is a 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 Magar student at primary level. The following are the research question for this study.

- How do the Magars' students learn mathematics in the classroom?
- What are the major causes of Magar students' low achievement in mathematics?
- How can improve the low achievement in mathematics?

Objectives of the Study

Each study has its own general and specific objectives. If objectives of study are not clear to the researcher, it can't be clear to the reader. So the researcher should state clear objectives of the study. The main objectives of this study were

- To explore the causes of Magar students' low achievement in mathematics.
- To identify the strategies taken by school in improving mathematics achievement of the students.

Significance of the Study

It deals with the rationale of the study. Mathematics is an essential part of school curriculum. It has been taught for all students as compulsory subject at school level. So every students needs the fundamental knowledge of mathematics to solve his/her daily life problem. Generally, mathematics is considered as different subject most of the students afraid from it and are failed in mathematics in S.E.E. Magar is a marginalized, disadvantage and deprived group from opportunities who have low economic status, low educational status in their society. They have their own culture, tradition and religion.

There are number of reasons for failure in mathematics. Most of the researchers have completed mathematics achievement of student on the basis of ethnicity, parent's education, occupation and income and they have also found its effect on mathematics achievement. These researchers were found that the different causes of low achievement in mathematics. But no one found that what are the causes of Magar students' low achievement in mathematics at Kailali district? So, this study would be helpful to determine the causative factor that determines way the achievement of Magar students. As well as, this study determines 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 reasons for the achievement in mathematics which could be use to improve the mathematics teaching learning situation and to reduce the failure rate in mathematics. This study would provide the appropriate information about also opens the door for further research in the field of learning problems of Magar students. So the research would more relevant and contextual.

- This study would find the causes of Magar students' low achievement in mathematics which would be valuable thing for teacher, researcher, curriculum designer and other stake-holder related to education.
- The study would be important to identify how the learning environment affects in the achievement of Magar student in educational sector.
- This study would be useful for government, NGO, INGO etc. and to improve the educational status of Magar students and to those communities having deficiency in education.

Delimitation of the Study

Any study cannot overcome all the fields. Among all public school of Kailali only one sample school was taken. The study result was based only on mathematics classroom of grade v of public school. So, the result of this study can be no more generalized. The following were the delimitations of the study.

- This study was limited to only one school of Kailali district.
- This study was done in Tikapur Municipality ward no. 1 of Kailali district.
- This study was based on primary level Magar students of public school.
- 4 low achieved Magar students were taken for study.

Definition of Related Terms

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

Magar: Indigenous ethnic group of Nepal whose homeland extends from the western and southern edges.

Factors: The term factors is defined as the one of several thing that cause or influence some things; ex. educational, economic, social and cultural.

Learning strategies: Learning strategies refer to students' self-generated, thoughts, feeling and action. Which are systematically oriented towards attainment of their goals.

Chapter II

REVIEW OF RELATED LITERATURE

This chapter deals on the review of empirical literature, theories and framework for the study. Literature review is the process of locating, obtaining, reading and evaluating the literature in the area of the research. It helps researcher to know the work carried out in the area of his/her research project. The main purpose of review of related literature is to develop some expertise in one's area to see what new contribution can be made and receive some idea for developing a research design. The review of related literature helps to make the concept clear for the study and also directed to analyze and interpret the data.

Empirical Literature

Several related literature were reviewed in this study we discussed below.

Jnawali (2001), did a research on the topic 'Causes that Affect Mathematics Achievement of Girls' with the two objectives of determining factors which affect the mathematics achievement of girls student and to determine the correlation between affecting factors and mathematics achievement of girl students interms of school related factors and non factors. For this research, researcher had selected 50 girls students from 10 public school of Rupendehi district. The data of sampled students was obtained through the student questionnaire from and achievement from school record. Various statistical techniques such as mean, co-relation coefficient and regression analysis were used to analyze the collected data. After analysis and interpretation of the obtained data, the finding indicate that the effective classroom teaching, peers behavior, time variable and teacher's behavior have strongly positive effect where as family background and

interest of learner have less positive effect achievement of girls student. But the school environment has negative effect.

Ghimire (1997), did a research entitled 'A Study on Factors Affecting Teaching Learning Mathematics at Secondary Level' with the aim to study the factors affecting in learning of mathematics in secondary level by sex-wise and rural/urban location of school in terms of these aspects like school environment, family background, motivational factors, physical facilities, interest of the learners and instructional materials. The tools for the study were administered for the sample of ninety students and the t-test was applied, he concluded that, environment of the school in both rural and urban areas affects equally but the both were more affected than girls. Students of Arghakhanchi and Chitwan were more affected than that of Kathmandu. The student of Arghakhanchi were found more affected than that at Chitwan. The student of Kathmandu were more motivated to study mathematics than that of Argakhanchi and Chitwan. The student of urban areas were more interested in the study and the girls paid more attention for the study.

Budathoki (2010), conducted a research on 'A Comparative Study on Student's Achievement in Mathematics of Lower Secondary Level in Different Ethnic Group'. The Objective of this study was to explore the mathematics achievement of Brahmin, Chhetri and Magar students at secondary grade in Rukum district and to make comparative study of this achievement. 329 students of Brahman, Chhetri and Magar students (71 Brahmin, 143 Chhetri and 115 Magar) were chosen sample for this study. The one-way ANOVA and s-method (scherre-methos of multiple comparison) were used as a statistical tools for the analysis of data at $\alpha = 0.05$ level of significance. The result of his research showed that

the mean percentage of mathematics achievement of Brahmin, Chhetri and Magar students were 31.76%, 28.27% and 26.27% respectively. Brahmin students achieved significantly higher than Chhetri and Magar students in district level examination 2061.

Bastola (2012), did a research entitled 'Factor Affecting on Achievement of Dalit Student in Mathematics' with the aim of this study to find out the current achievement level of Dalit student in mathematics and to find out influence factor that determine achievement of Dalit students in mathematics. The researcher developed the achievement test paper and questionnaire. Various statistical methods such as mean, percentage, standard deviation, t-test were used analyze the collected data. He found that cast system the everybody lives of people their way of talking and behavior to other people, there relation experience and perception towards other thing and people. The lower caste, humiliated and oppressed due to the culture and poor language in every field such as home, community and school. Cast system not only determines the occupation and everyday lives of people but also affect the learning strategies and perception of student. People give less emphasis on learning and ignore the school practice in daily life. So cultural discontinuity was the main cause of learning difficulties in mathematics.

Yadav (2013), studied on the topic 'Causes of Low Achievement in Mathematics of Musahar Student'. The objective of this study was to find the causes of low achievement of Musahar students in learning mathematics. The case study was necessarily of qualitative of descriptive in nature. 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 earning to support their living. Most of the Musahar students

speak Maithili language which causes difficulty for them to deliver their own opinion to the teacher and understand Nepali language.

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 found that there are many factors such as culture, physical facility, home environment, teaching learning process, motivation, teacher behavior and interaction.

Even though, some research had been conducted before on mathematics achievement of Magar students, the previous studies have not been attentive towards finding solutions to low achievement and come across with actions to be put into for achievement in mathematics of Magar students in primary level. Hence, this study is primarily focused on researching on mentioned matters.

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 findings of the study. Many theories about the learning and development of children such as cognitive, behaviorist, humanist, social constructivism can be used in this study. To find the suitable solution in the area of low achievement in mathematics; constructivism becomes one of the possible theory to solve the problem on the topic of causes of Magar students' low achievement in mathematic. Every child learn from society from social contact with home, family and universe. The theories used in this study is briefly described below:

Constructivism

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 thing and reconcile with previous ideas which has already existed or reconciled with pre exist idea. It means our mind becomes active creator to reach and act with present surrounding. In the similar way constructivist idea of learning can point towards number of different teaching practice. It encourages the student to involve themselves actively and use techniques of learner centered, group work discussion, learning by doing, use outside tools to be more practice and gain high achievement in mathematics rather than classroom in focus on real life learning environment, social interaction and use of complex idea share with others outside of classroom easily. Constructivism transforms the students from passive receipting of information to active participant in teaching process. Constructivism based on three axioms that are as 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 Upadhyaa (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 advocate as social constructivism leaded by Vygotsky, who states that knowledge is socially constructed.

Bandura's social learning theory emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Bandura (1977) states: "Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action.". Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences.

Social learning theory assumes that modeling influence produce learning principally through their informative functions and that observers acquire mainly symbolic representations of modeled activities rather than specific stimulus-response associations. In this formulation, modeling phenomena are governed by four interrelated subprocesses.

Attentional processes: A person cannot learn much by observation if he does not attend to, or recognize, the essential features of the model's behavior. One of the component functions in learning by example is therefore concerned with attentional processes. Simply exposing person to model's does not in itself insure that they ill

attended closely to them, that they will necessarily select from the model's numerous characteristics the most relevant ones, or that they will even perceive accurately the aspects they happen to notice.

Retention Processes: A person cannot be much influenced by observation of a model's behavior if he has no memory of it. A second major concern in observational learning concerns long-term retention of activities that have been modeled at one time or another. If one is to reproduce a model's behavior when the model is no longer present to serve as guide, the response patterns must be represented in memory in symbolic form. By this means past influences can achieve some degree of permanence.

Motoric reproduction processes: To achieve behavioral reproduction, a learner must put together a given set of responses according to the model's patterns. The amount of observational learning that a person can exhibit behaviorally depends on whether or not he has accurate the component skills. If he possesses the constituent elements, he can easily integrate them to produce new patterns of behaviors, but if the response components are lacking, behavioral reproduction will be faulty. Given extensive deficits, the subskills required for complex performances must first be developed by modeling and practice.

Motivational processes: A person can acquire, retain and possess the capabilities for skillful execution of modeled behavior, but the learning may rarely be activated into overt performance if it is negatively sanctioned or otherwise unfavorably received. When positive incentives are provided, observational learning, which previously remained unexpressed, is promptly translated into action. Reinforcement influences not only regulate the overt expression of matching behavior, but they can affect the level of

observational learning by controlling what people attend to and how they actively they code and rehearse what they seen.

Bandura's theory improves upon the strictly behavioral interpretation of modeling (Miller & Dollard 1941). Bandura's work is related to the theories of Vygotsky which also emphasize the central role of social learning.

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 the worlds in a unique way. Vygotsky argues that the child's 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 context that is needed for construction the meaning.

Vygotsk's child is social which presents right from the beginning as he arrives into the complex work of social relationship and culture. According to Vygotsky child development is organic growth and maturation known as natural line as well as psychological functions known as cultural improvement. He believes on the rate culture in development of the child which is transmitted to them by their parents, adults or peers. Vygotsky provided a materialistic basis for the development of mind. According to social constructivist Vygotsky, knowledge is constructed in two ways in social context 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 processes of understanding, constructing meaning and making senses. The

knowledge constructed by child is not only through his own capacity but from also the context and interaction with more knowledgeable others. Vygotsky proposed that child knowledge could be predicated if we could understand the social context.

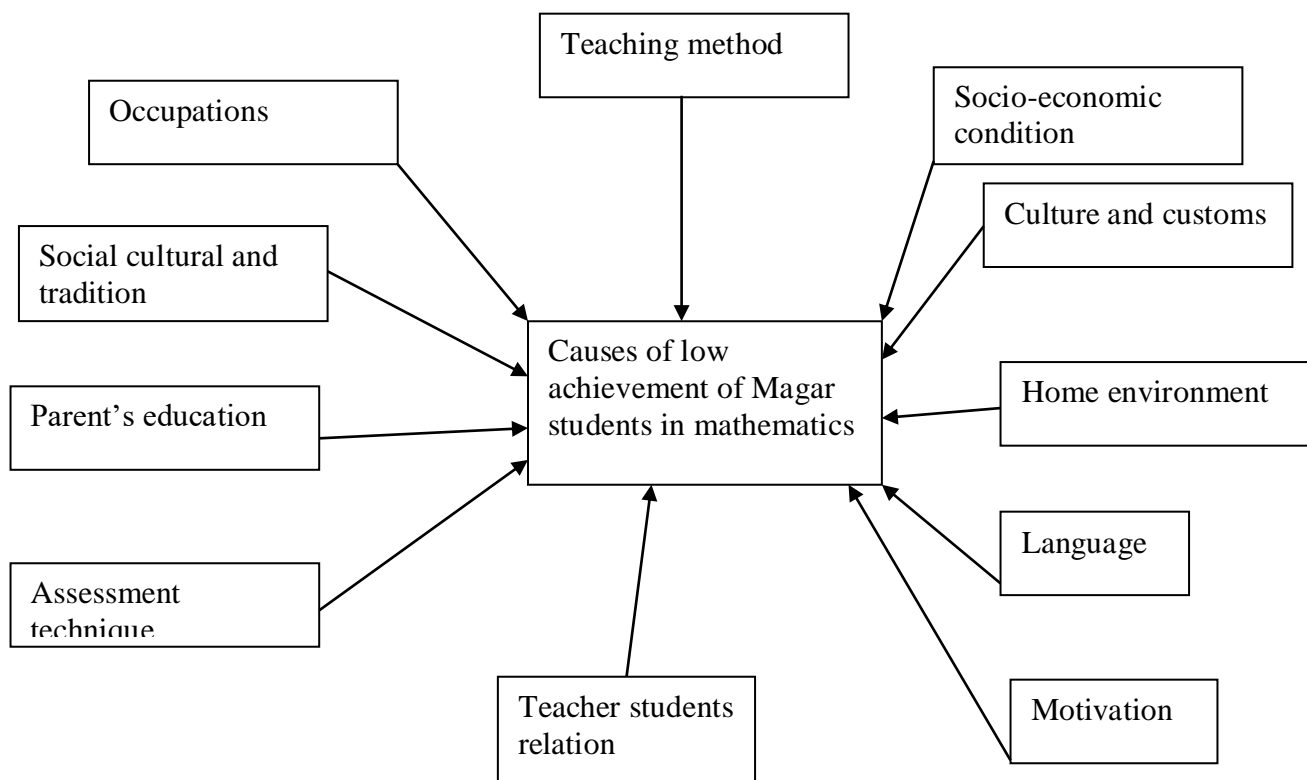
The children as they go about their daily activities, we see that they continuously talk themselves as they play and explore the environment. He termed it as “private speech” Vygotsky believed that all higher cognitive processes develop out of social interaction. By activating with more mature numbers of society children come to master activities and think in way that have meaning in their culture. Adults who offer an effective scaffold adjust the assistance they provide to fit the child’s current level of performance. In according 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 they must subject themselves to the rules of the play scene.

So, in brief people do make their own meaning from their own belief, construct new ideas 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 Framework

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

Fig.1 Framework for causes of low achievement in mathematics of Magar students.



(Source: Dahal (2011))

There are several causes that bring low achievement in mathematics of Magar students. Home is the first school of students so the home environment plays the vital role in learning mathematics. Parent's education and their behavior affects in learning.

Language is the means of communication. So, language has its vital role in learning mathematics.

Which method the students and teacher has used in their study affects the learning mathematics. It is the subject of method and logic so it is necessary to overview what the method has used by students and teachers in mathematics learning. So, teachers and students should pay attention while applying the method in learning mathematics.

This is the age of economy. A man cannot use his idea of he/she has no economy. Money matters in all area as it plays the vital role in education. Because of poverty, many Magar students are being deprived from achieving the education.

Every man is guided by his will. What he/she becomes is the outcome of his interest. Student's interest in the subject varies according to the situation. Students can get good marks in their interested subject. So, interest too plays the key role in learning.

Chapter III

METHODS AND PROCEDURES

The methodology describes the basic research plan. This is really the heart of the study. Here the activities used to complete the proposed study should be described in detail. Methodology is a science, which determines how the research becomes complete and systematic. This chapter describes the design of the study, study site, sample and sampling, tools for data collection, selection of case respondent, data collection procedure and data analysis and interpretation.

Design of the Study

Research design is the conceptual structure, strategy of the logical, systematic plan and direction of research. It is a way through which a researcher reaches to the goal of research. Its important is to help researcher to collect data and analyze it. This was a case study research, related to cause of Magar students' low achievement in mathematics. This case study was qualitative as well as descriptive in nature.

Study Site

This study carried out at Shree Saraswati Secondary School, located at Tikapur municipality ward no.1 of Kailali district.

Sample and Sampling

Magar students, their parents, Principal and teachers of school was considered as population of study. From the purposive sampling method, 4 Magar students of grade V were chosen as sample.

Tools for Data Collection

Data collection is the most important part of the study. On the basis of data collection techniques we can study and analyze every aspect of the study. The consequences of the study depend on technique of data collection. To collect the primary and secondary data, the following tools were used.

In-depth Interview

On the basis of the objective, I developed the interview from under the various guideline in unstructured form. With the help of developed unstructured interview themes, I took the interview with key students, mathematics teacher, head teacher and corresponding parents to collect primary data. On the basis of objectives, I developed the interview theme in semi-structured form.

Written Document

Teachers' demography, record of the students, variety of the scholarships and additional supports provide to the students, mark ledger, attendance, past result and other relative documents of the school were used.

Observation

The already established semi-structured observation form was used to fulfill the intended objective of the study. I 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 Magar student, friends behavior toward Magar students etc. was observed. The different outlook of students behavior in the classroom and the non participated observation.

Selection of Case Respondent

The respondent of the case study were Magar students, their parents, mathematics teacher of related grade and head teacher. Those respondents were selected purposively to find out the causes of Magar students' low achievement in mathematics. From the sampled school, only 4 low achieved Magar students on the basis of mathematics score of previous examination were chosen according to gender, socio-economic background. 4 parents of case students, head teacher, mathematics teacher were selected as the respondents of the case study. For this study purpose I prepared the conceptual framework of the study in literature review. To get additional information about the case students and his/her family background researcher prepared the individual students record of low achieved Magar students of grade V.

Data Collection Procedure

To collect the qualitative data, class observation was done regularly for 20 days during teaching learning activities. I could watch, listen, interact and record the essential data from the information in a natural setting through using non participant observation. I had observed mathematics class in grade V 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, head teacher and mathematics teacher. This interaction with the above respondents was carefully listened and noted properly. The students attendance, regularity and other behavior or activities were noted were obtained by

observing the school environment interviewing with head teacher and document analysis of school. The learning environment of the home and other details were obtained by taking interview with the parents of Magar students. The tools were carefully conducted and noted properly. Also interview and observation was conducted to focus parents in their own house.

Data Analysis and Interpretation

In this study, the analysis of data was descriptive. In qualitative research design data was gained and analyzed by descriptive method. The duration of the field for study in Magar community and school was 20 days. In this period, I involved fully in the observational inquiry to make the familiar environment. I recorded activities of key students and teacher from their classes. I observed the class of mathematics of those Magar students. The information was collected from the observation and interview by questioning present status of school facilities, student teacher activities, used methodology and materials in classroom teaching. To analyze and interpret the data by the help of different theories and literatures, the collected information at first was categorized according to the category of the respondents and then different themes were considered as a code. The similar code version of the respondents were analyzed and interpreted by using the framework then I triangulation were adopted to validate the information and hence the conclusions were made.

Chapter IV

ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the collected information derived from the case study. The main focus of this study was to explore the causes of Magar students' low achievements in mathematics. I studied the school's documents such as teacher profiles, mark ledgers, attendance as well as the records of the case students. Also I had observed mathematics class; case student behavior, activities and behaviors of the students and teacher were carefully observed and noted. The student's home environment and behavior was evaluated with the help of interview schedule. I had also noted the case students pre-class documents, their regularly, 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. I had attempted to calculate the study by describing and analyzing the information acquired in their perspectives under the following headings.

- Introduction of sample school
- Introduction of case students
- Learning environment of Magar students at school and home.

Home Environment

- Parent's education

- Socio-economic status
- Occupation
- Culture and customs

School Environment of Magar Students

- Physical facility provided by school
- Teacher student relation
- Dominance of language
- Encouragement and motivation for Magar students
- Teaching method
- Assessment technique and community relation

Introduction of Sample School

Within these following topics history of school establishment, school community, participation of Magar students in school are described.

History of School Establishment

Shree Sarswoti Secondary School is located at Tikapur municipality-1, north puruwa of Kailali district. It was established in 2035 B.S. (1978). It is the oldest educational institution of Tikapur Municipality. The school started with 20 students in B.S. 2035 and an intake with average 450 students. The school within the wide area and

is situated 15 kilometers south from Mahendra highway. 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 first head teacher of this school, it was established on Magh 2035 B.S. It was established with the great effort of local people without getting any fund from the government. The students studied on the mat under the tree. After some years the school building was constructed with the help of local donation. The lower secondary program was extended in 2045 B.S. The secondary level classes started in 2055 B.S. with appeared in the SLC examination out of them 20% were passed.

In initial stage, other school did not have suitable building. An organization named peace crops and other organizations visited the school and they provide fund to change the building in the durable form. The building was used for library, staff room and classroom for all level students.

School Community

This school is situated in Tikapur municipality -1, Uttar puruwa, Kailali. All of the communities around school were mix communities. The students of Magar communities were in more number than that of other communities. People of different caste live around the school area they are Magar, Chhetri, Damai, and sarki. Magar are in majority and Chhetry and others are in minority. So the students from different caste and different groups study in this school.

Magar community is one of the communities of Tikapur municipality. There are 300 house of Magar. In comparison to the students of Magar communities the students of

other communities were more in number because the overall population of this community was less. Magar parents did not send their children to the school because they were economically as well as educationally backward. Most of the parents of the school were involved in small business, foreign service and labor in different sectors, so they pay the student's fee from the same sources described above. There are many private schools which are better than this school. So, rich and educated parents sent their children to the private school. The students from lower cast and economically weak were many in number than the students of rich and educationally healthy background.

The school community was diverse in nature, multi-culture and multiethnic in terms of place, religion, caste, ethnically, language, culture and different value systems as well as multi class in economic composition.

The following responses were obtained when asked what is your view towards this school.

“We can easily admit our children in this school. It is a government school; the private schools are beyond our access because they are expensive for us”

-Parents' view

From above view, the parents are comfortable to admit this school to their children, because the administrative system is very easy, as well as the school environment is good. So the parents are happy to send their child in this school.

“Nowadays, government school seems as the school for the students of poor because the people of upper communities do not send their children to the government school.”

- Member of Management Committee

The view of member management committee deals the system of Nepali culture. Nowadays many people earn so much money and they think if we send our child in private school then they are talent as well as they can learn English. So many rich people think that private is good for their child.

In the management committee senior politician, educationist and social worker have involved. So the management committee of the school seems better. The school management committee held the meeting time to time and continuously visits the school.

Participation of Magar Communities in School

Magar community is taken as a *Janajati* of our country. Magar community was one of the major communities around the school. The presence of this community in the school was more. The students of Magar community were more in number than that of other communities. Only two members of this community had reached in the vital post of the school management committee. We found three teachers from Magar community in this school. The presence of Magar community was less in the school activities and programs. Head teacher opinion regarding this issue was:

“The students in this school are especially from poor and ethnic communities and the parents in these communities are unaware towards education. To make responsible toward school management committee includes the members of Magar communities. We

usually inform the parents about their child education. In addition we have organized different awareness program regarding education.”

From the study, the researcher found that, the students of Magar community were more in number than the other community. The parents of the Magar students were hardly involved in the different activities of the school like school management committee, educational programs and physical aspects the school.

Introduction of Case Students

Ramesh Pun Magar

Ramesh Pun Magar was eleven years boy studying at grade five. He lives in Tikapur municipality - 1 Uttar puruwa. It takes him 5 minutes to reach in school from his home. There were five family members in his house and they all believed in Buddhism as well as Hindu religion. He was known as a disciplined boy in the class. His interested subject was Nepali and his aim of life was to be good teacher. Ramesh's educational standard was decreased in comparison with his previous class. He had got 8th position in previous class but later his position was 10th in the class.

His parents were uneducated. Economically, it was hard to maintain the family. His parents were not employed few years ago his father went Dubai to earn money. Now his father was a farmer and mother used to sell vegetables in the morning and evening and worked in the house at day time. His two sisters were studying in grade four and two in the same school.

While observing the mathematics class, I 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, the head teacher gave his view as:

“He is a good students but his position has decreased then previous year. He has good environment to study in the house and there is no guardian in home who helps them in their study.”

- Headteacher

Sangita Pun Magar

Sangita Pun Magar was ten a years girls of grade five. She had been studying in Shree Saraswati Secondary School since grade one. Her house situated in south which is five hundred meter far from school. All members of her house followed the Hindu religion and also spoke Magar language. There were seven members in her family. Her parents were illiterate and used to manage livelihood by running rice mill. Her mother worked in farm at morning and evening and she also worked in house at the day time.

Her interested subject was English. Mathematics and science were the subject she was not interested on. She did not want to miss the class but in rainy season she sometimes missed the class because she was unable to cross the river and 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 father gave the answer in this way.

“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”.

Sangita’s mother goes to the farm early in the morning Almost, cooking in the morning was her compulsion. So she had no time to study in the morning. She did her homework and study at the night time. Sometimes she did not complete due to the problem of load shedding.

Samir Pun Magar

Samir Pun Magar was thirteen years boy of grade five. His house is located at Uttar puruwa and it takes two minutes to go to the school. There were nine members in his family and they all followed the Buddhist religion. His father and mother were illiterate and were engaged in farming. He is interested in playing football 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. His family members work in the field on low wage and spend their money drinking alcohol and quarreling to own another. I asked him, how like Magar teacher. He said:

“Magar teacher are good because they make us clear everything in our language.”

While observing the mathematics class, I saw him he had never completed his homework and unable to solved 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 show his interest in household work.

Asmita Pun Magar

Asmita Pun Magar, a twelve years girl student studied in grade five. In her family there were five members. Her parents were engaged in agriculture. Beside the vegetation in the field, they went to the daily work to gain economic help. She helped her parents both in household work and works outside the house. Her main work was to take care her little bothers and to work the household works when her parents went out of the home. 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 that:

“We are the men who pass out life by working in daily wages. So when we become out of the home. Asmita has to look after her little brother. But we give her chance to study when we are in house. The main problem is that we are economically weak.”

- Asmita’s mother

“We are illiterate, we are economically weak because of the lack of knowledge of education. So is any way I will teach her less until she complete SLC.”

-Asmita’s father

Asmita had to do the house works rather than study because her mother used to think that a daughter must do household activities. I asked mathematics teacher about her learning and told that she can not attain the class regularly she got more difficulty in learning verbal problems because she does not understand Nepali language frequently as she spoke Magar language at home. She had to labor hard to get success in mathematics.

Learning Environment of Magar Students at School and Home

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 regarded as the first school to every individual. The students learn how to behave other, how to respect the elders, how to love to the younger, how to cooperate to each other etc in the home. It is assumed that the achievement in mathematics is highly influenced by the home environment, parent's education, socio-economic condition of family, study hour at home, gender bias in family and so on.

When asked the question do you get sufficient time and learning materials to learn and when the teacher taught the mathematics lesson I always left the class due to economic condition. I lost opportunity to learn mathematics.” -Student's view

The above view indicates that the Magar students does not get opportunity to learn mathematics not only at home but also in school due to the burden of earning in livelihood.

“My children do not get book and other facilities on time due to poor income which is gain from labor.” -Parent's view

The above view indicates that due to poor-economic condition they didn't have any more physical facilities at home. The incoming source was not sufficient for their children. So the children afford their time to earn money at home rather than study. They did not have

sufficient time to repeat mathematics at home. But modern research emphasizes that the mathematics need more and more time to get good achievement. On other hand mathematics teacher have following opinions on the questions. Why do the Magar students got low achievement in mathematics?

- They can not attend class regularly.
- The children of Magar community become shy to ask any question about the problem.
- The students does not afford for tuition classes to improve in mathematics. They have inferiority of complex in comparison of other students.

From the above view, it becomes clear that the Magar students fail due to irregular presence in the class and shy in nature, On other hand, they have no money for tuition and they have inferiority complex.

The constructivism theory also elaborated that the opportunity to learn mathematics at home play vital role in mathematics achievement. It is concluded that, the lack of sufficient time for mathematics learning at home of Magar students is one of the cause for the low achievement in mathematics. Due to poor economic condition of Magar, students can not manage their time at home for mathematics learning.

Parent's Education

The students pass their most of the time at 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 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 god education, they 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 parents education, the following responses were obtained.

“Our parents are illiterate they could not read and write. So our parents could not provide guidance at home for mathematics learning.”

-Student's view

“I am helpless, I have no education so I can't help them.”

-Parent's view

“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 become weak in mathematics.”

- Teacher's view

The above mentioned view manifests that due to illiterate parents Magar 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 above view also show Magar students did not do homework regularly in mathematics, due to lack of sufficient time at home for practice and lack of guidance of parents they become weak in mathematics.

The constructivism theory elaborated that the students had high achievement in mathematics if there is good educational guidance otherwise the achievement would be low. Finally it can be said that the achievement of students is low because of the parent education.

Socio -Economic Status

Economic status is also main cause of the study. The children of rich family study at expensive and qualitative school but not by the children of poor economic family. It is very hard to connect the hand and mouth in the evening and morning for them. Education is the dream away. Most of the Nepalese people are living under the poverty. In Kailali district of far western region, Magar people are not remaining free away from poverty.

It is very hard to buy pen and copy for their children. Among them some body work in India and somebody work in land laborers. So, Magar couldn't manage the educational environment at the home and school. Also they couldn't give education facilities for their children which can be obtained from good economic condition.

According to the math teacher about the Magar student:

“Generally, the students of the community have a problem of economic condition. Mainly they become absent in the class mostly, due to economic condition. In second they have not pen and copy consequently. It is very hard to teach them and other student regularity.”

"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."

- Students' view

This shows that poverty is an obstacle for the study of child. Through fee in public school, the necessary things for students like copy, pen, books bags, dress, tiffin are not provided by school/ government. The poor parents cannot provide all these things to their children and these factors in learning process of the student.

To analyze the socio economic factor from constructivism theory, the 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. As a result the mathematics learning is hindered. There consequences cause of Magar students' low achievement 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 these day. Some people of this community go to Kathmandu, 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 Magar 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, occupation is totally different to make or prepare educational environment in the home. There is no relation between education and occupation of Magar which are barrier or hindrance in education. As a result the student of Magar community achieved low score in mathematics.

The teacher have following response about the occupation followed by Magar parents.

"The Magar parent's 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 not the time in mathematics learning".

-Teachers' view

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 Magar 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.

Culture and Customs

The customs, beliefs, art, way of life and socio organization of a particular country or group is culture. Culture is the base of human civilization which shapes the psyche of the individual and the society. Magar culture is related to the weaving baskets, ropes, rain

covers also they are making home wine and they drink. But this culture developed as an occupation in course of time. They sell these items generate extra income for running their lives. Besides these commodities type sell firewood, bamboo and shoots.

It is very hard to sustain the life by adopting the cultural occupation of Magar in one hand and now this occupation is taken as a profitable occupation and they hesitate to adopt this occupation on the other hand. So many Magar had been diverting from this occupation and are adopting other occupations.

The people of these communities had not enough land to work so they pass this time in unnecessary deeds like drinking alcohol, playing cards, and carom board, filthy talks etc. because of these activities social imperfection dispersed in the society which created negative impact on their children.

School Environment of Magar Students

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 teachers guide, control and provide information about the book and the current time. The school has 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 be comes 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

Physical Facilities Provided by School

Shree Sarswoti Secondary School is situated in Tikapur municipality ward no. 1, Kailali. From the academic perspective, its one of the good government school of Tikapur. The students from wide range study in this school. The students from different cast come to this school for their study. The area of the school is bounded by strong wall. Now, the school has 2 RCC building with 6 classrooms to teach the students from grade 5 to 10. It has also another tin roofed building of 4 rooms at the classroom for primary level and child development center. Beside these there is library room, practical lab, store room, staff room in this school there

Teacher Student Relation

Teacher student relation is one of the factors to got a less achievement of mathematics. In this school most of the teacher knows language, they use Nepali language to teach. Also most of the student first language is Magar. Teacher student relation is good but some teachers don't know their language. So to got a better achievement in mathematics teacher student relation should be good.

Dominance of Language

Language is a means of communication. Nepal is a multilingual country. Many languages are spoken all over the country. In the context of Nepal, Nepali language is the medium of instruction. The dominance of language would mean the hindrance of first

language for Magar students but they are imposed to speak second language Nepali, in the classroom and while interacting with the teacher. So they feel some difficulty to understand second language they do not understand simple idea about mathematics if the teacher pours the idea in second language.

The following response was obtained, when asked which language is appropriate for medium of teaching.

“We understand clearly if the teacher teach in our language.” - Student’s view

The above view shows that the Magar students do not understand second language adequately while teacher teaches in Nepali. The second language hinders to understand idea about mathematics which becomes a poor interaction between teacher and students, also shows that the culturally backward ethnic group Magar community uses language to their relatives, parents, friends and Magar 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 Magar 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 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. 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 brings high achievement in mathematics.

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.”

- Students' view

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

- Parent's view

The above mentioned view shows that the parents are uneducated and do not have knowledge to suggest or encourage students 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 necessary in the study of the study of this subject. The experienced teacher can make his effective. The students can understand the problems if the teacher use the tricky methods. A trained teacher can attract the students 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 easy and interesting. The teaching learning process can not effective in mathematics classroom if there wear not chosen appropriate method. How the students can easily understand the solving process is important. In mathematics teaching many methods are being used like five 'e' learning model of constructivism theory, 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.

Classroom Reality

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 25 students out of 35 in the class. Physical environment of classroom was 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 whiteboard 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 or 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 students' friendly environment. Thus we conclude that traditional type of lecture method was one of the causes for low achievement.

Assessment Technique and Community Relations

NCTM (1989) recommended that computational algorithms, rote learned regurgitation, and paper-pencil reproductions should not dominate school mathematics assessments. The assessment needs to take into different ways that student learned, and the different abilities each child brought to learning. It should be inclusive and considerate of diversity (Curriculum council, 1998). Now a days alternative forms of assessment are introduced which validate the use of different cognitive strength to demonstrate understanding some children from visual images better, some are strong in logic, others sense the meaning of a problem better in its written form, whilst other way require discussion and reflection for understanding. Person describe the value of alternative assessment to mathematics learning is liberating in that they provide teachers with the authority to make ongoing and situated judgment about achievement resulting from their teaching. 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

"I am planning to take unit test regularly from this month "

-Mathematics teacher

Finally, I found that Magar students had got low achievements in mathematics because of their culture, early marriage, indifferent to study, child production, occupation, teaching method, lack of practice etc.

Chapter IV

FINDINGS, CONCLUSIONS AND IMPLICATIONS

This chapter presents the findings and conclusion of the study. Some implications based on the findings are made for further study.

Findings

This is a case study of Magar community related to causes of Magar students' low achievement in mathematics at primary level. The purpose of this study was to identify the causes of Magar students' low achievement in mathematics at primary level. I used the interview schedule, observation and written document for collection of data. I found major findings from this study as follows:

- Magars home environment was very poor so that their participation in mathematics was very poor.
- Magars students parents were illiterate so many students of Magar ethnicity to continue study and they were not aware to give higher education to daughters.
- There was no scholarship fund, no extra classes for weak students and there was difference in language between college and home which affected the learning environment and finally caused the low participation of Magars
- Influence of society with negative beliefs, less practices and negative attitude caused the low participation of Magar students.

- Magars students were treated differently and they were made backwards by emphasizing other casts people to develop. This gender inequality treatment caused the low participation of girls in mathematics learning.
- Magar students were dependent and they were given less priority in education and this bias behavior of parents towards their daughters cause the low participation of Magar students.
- The causes of Magar students' that brings low achievement in mathematics were parents occupation, parents education, home environment, socio-economic condition, culture and customs, dominance of language, teacher student relation.
- For the improvement of students achievement in mathematics school make a strategies to improving these students achievement to make a free extra classes, feedback, mathematics quiz competition, motivational speech etc.

Conclusions

Society as a whole believed that female is mathematically less capable than male. Parents and teachers communicate this belief to the students. Society, home and college do not provide environment to girls to take higher education. They are capable to study mathematics but they are made incapable. Girls come to view their failures in mathematics as evidence that they indeed feel inferior and to view their success as flunks (to fail an exam). This reinforced the belief that they are not capable of doing well in mathematics. Females stop taking advanced mathematics courses in high school or college, believing too difficulties. Girl failure to acquire the knowledge necessary to

achieve in mathematics is the matter of construction of positive attitudes towards mathematics. This is due to lack of home environment where there is poor economic conditions, agriculture occupation, and bad learning opportunities. Parent education and their interest is to marry daughters at the earlier stage and they are not aware to give higher education to their daughters. Learning environment at home and school as there was no provision of extra classes for weak students and different in language between school and home.

Implications

In the context of Nepal, many students fail in mathematics and the trend is still in continue due to this, there were the less participation in mathematics. In order to ensure Magars access and participation in mathematics at basic level is low. Some measures were worked out. They include pedagogical change, tutorial support, development and distribution of model Magars rosters, interaction between teachers, parents and students, incentive, lab and library support, collegial monitoring and counseling and project work to accommodate practical experiences of the Magar students. These will contribute to making mathematics subjects more enjoyable. Besides, the study has developed an action plan to address the mathematical specific issues, identified action strategies and pointed out the responsible agency to implement intervention indicatives. These intervention initiatives includes action as well as programs to address socio-culturally oriented gender biased mindset, school based encouragement scheme for Magar students and those advocating Magars education, school support program and mathematical career expectation programs for Magar students. Thus, after analyzing the conclusions and implications of the study has made

the following recommendations or suggestions for the further study to variable study's findings:

- Awareness programs should be launched.
- There should be at least one Magar teacher at primary level.
- There should be fixed free seat in boarding school for Magar student.
- A similar study can be done same level but in other subjects.

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APPENDIX I
INTERVIEW SCHEDULE FOR PARENTS

NAME:

RELIGION:

SEX

AGE:

- Do you encourage your children to study at home or to do housework?
- Which occupation of parents helps to improve students learning performance? Why?
- What kinds of problems have you got in school for your children?
- Do you agree that parent's economic status of family influence students achievement? Why?
- Do you agree the parents education influence students achievement level?
- Are you satisfied from your children's achievements level in mathematics? If not, what are the main reasons?
- Any further suggestions regarding the improvement of schools achievement level?

APPENDIX II

INTERVIEW SCHEDULE FOR MATHEMATICS TEACHER

The interview with the mathematics teacher would take in the basis of following main topics:

- Problem in teaching mathematics.
- Problem on teaching Magar students.
- Participation of Magar students in the classroom.
- Relation between teacher and Magar students.
- Impact of cultural differences in the mathematics learning.
- Any separate treatments for Magar students?
- Teacher learning habit at classroom.
- Any plan for Magar students.
- Use of homework and class work.
- Facilities provided by school.
- Teaching and learning environment for Magar students in school.
- Difficulties faced by Magar students when teaching mathematics.
- Need for extra treatments for Magar students.

APPENDIX III**INTERVIEW SCHEDULE FOR MAGAR STUDENTS**

NAME:

RELIGION:

PLACE OF BIRTH:

1. Which type of family do you belong?
2. Which type of behavior do you get from your family?
 - (i) Discriminating
 - (ii) Non-discriminating
3. How much time do you study at home?
4. What is your view about your culture and language that affect for study?
5. What type of behave did you get from your mathematics teacher?
6. How far is your home from your school?
7. Who encourage you to take higher study?

APPENDIX IV**OBSERVATION FORM FOR MAGAR STUDENTS**

The observation of Magar students would take on the basis of following guidelines everyday:

Name of the student:

Address:

Time:

- Teacher activities with Magar
- Behavior at home
- Behaviors of parents
- Home task they have done
- Social norm towards Magar
- Thinking towards v at society
- Classroom management
- Time to study at home for Magar