

Chapter-I

INTRODUCTION

Background of the Study

Mathematics is very important and useful subject in all aspects of human life. It directly deals with human life. It is said that the development of mathematics start from the period of human civilization. It is need oriented subject. Nowadays there is no any field in which mathematics is not used. Mathematics historically in the initial stage was created to fulfill human needs. It was introduced latter in formal education system. It had been developed simultaneously with the development of society. Mathematics is very much older than history which begins in eleventh century as is well known. Around 50000 B.C. animal bones etched with tally marks provide evidence that the pal Eolithic people of central Europe were able to count. Around 15000 B.C. notched animal bones discovered in the Middle East provide further evidence of early counting. The great pyramid at Giza was built by the Egyptians around 3000 B.C.around 1800 B.C. Babylonian scholars develop a base 60 place value system of numeration. The Egyptians,Chinese and Indians used different system of mathematical generation in algebraic problem solving (Upadhayaya, 2067). With it, we can easily make a concept that history of mathematics is very old. It begins with numbers and now 21st century it reached in ICT.

In the 60th decades, two streams were seen in mathematics education. One was content improvement which tried to bridge the gap between mathematics developed by mathematics and mathematics taught in classroom; and learning process which is related with learners' psychological aspect. Though the

fluctuation between these two streams were seen in 70th decades; problem solving method of George Polya was developed in 80th decade and tried to correlate to each other. In the name of social and ethnic mathematics, ethnomatics was emerged in 90th decades. Moreover, constructivism, inclusive education, popularization of mathematics try to make the mathematics education effective. In the present scenario of 21st century ICT in mathematics has been developed Uprety,(2009).

Mathematics has its own language which is basic tools of communication involve frequent use of its own symbols notation and meanings which is Universal language. It is used in our daily life. Without mathematics no one can live completely. Thus it is quite natural that mathematics can be given very important place Bell, (1978).

Mathematics is very wide and essential subject. It has developed from grass root level to advance from according to human needs. So it is also included in the curriculum of school level to colleges. Also it is included in different subjects, Science, Commerce, RD, Engineering, Medicines, Geography, Economics, Management and Psychology. It helps study different tables, charts, diagrams, graphs, geometrical and technical drawings. So mathematics teachings are useful and essential for the students to solve the mathematical problems of his life. It develops thinking and reasoning powers. It promotes the power of concentration in students. It develops the ability to analyze and generalize Chaudhary,(2000).

Mathematics is key of all sciences. Without mathematics sciences becomes handicapped. Thus mathematics is a door to enter science and

technology mathematics becomes more important and essential subject to do much better.

According to oxford dictionary the word environment refer the conditions that affect the behavior and development of somebody the physical condition that somebody exist in a pleasant working / learning environment here home environment refer to aspects of peoples domestic Paudel,(2009).

Children are motivated to work on activities and learn new information and skills when their environments are rich in interesting activities that across their curiosity and offer moderate challenges. The same can be said about the home environment unfortunately there is much variability in motivational influences in homes. Some homes have many activities that stimulate children's thinking as well as computers, books, puzzles and the like. Parents may be heavily invested in their children's cognitive development and spend time with them on learning. Other homes do not have these resources and adults in the environment may play little attention to children's education Eccles et. al.(1998).

There are several factors that influence on learning mathematics. Home environment is an important and major factor among them. Mainly, home Environment includes parent education, parent occupation, study time, study room, library, television, radio, instructional materials, family size, homework checking, school visiting by parents, behavior toward their children etc. Among them research included following factors on study:

-) Parents education
-) Parents occupation
-) Family income
-) Study room

-) Play materials
-) Homework checking
-) School visiting
-) Parent expectation
-) Ethnicity beliefs
-) House hold work

Statement of the Problem

This study was mainly concern to uncover the factors affecting learning mathematics of Madhesi community students. Mathematics includes in the beginning of the school curriculum. Different play materials help to learn mathematics. So classroom environment as well as home environment plays important roles to learning mathematics.

The condition of my students in learning mathematics was very poor, so I intending to find out the affecting factors in learning mathematics and assumed that one of the crucial factor is the home environment. As the different problems related to home environment have been found that affect in learning mathematics. I hereby would like to study on the topic ‘uncover the factors affecting learning mathematics of Madhesi community students’.

There is a quotation “home is the first school and parents are first teacher of a child.” So the learning achievement of a child depends on the affective home environment Bom, (2009). But most of the Madhesi children are out of the school and those students who are in school are also poor in learning mathematics. So, the main statements of the problems were as follow:

-) What are the factors involved in the home environment of Madhesi children?

) Do the home environment influence mathematics learning?

) Why is the Madhesi children low achiever in mathematics class?

Thus this research had been done on the title “Uncover the factors affecting learning mathematics of Madhesi community students”.

Objective of the Study

The Main objectives of this study were

1. to identify the learning environment of grade eight Madhesi community student in Banke district.
2. to identify the major factors affecting learning mathematics of grade eight Madhesi community students in Banke district.

Significance of the Study

It is said that home is first school for a child. So home environment plays vital roles and it helps to make favorable home environment to learning mathematics. Environment refers to the home as well as school environment. Good environment occur creativity in students. Mathematics is creative subject. Thus, the learning environment play most important role in learning mathematics.

The significance of this study were

-) To make favorable environment for learning mathematics
-) To alliance child learning environment at home
-) To open the door for future research
-) To give learning opportunity to the student
-) To make child friendly environment at school

Delimitation of the Study

Delimitations of this study were as follows:

-) This study was limited to Madhesi community students in Banke district.

-) The study was limited to grade eight students.
-) The study was limited to Nepalgunj sub- metropolitan city.
-) This study was limited to classroom environment and home environment.
-) It was limited in Gyansagar Higher Secondary School.
-) It was limited in learning mathematics only

Definition of term

Madhesi community:

Those people with closest cultural ties to Utter Pradesh and Bihar are Madhesi. They are community of people consisting of four language Maithali, Bhojpuri, Awadhi and Bajjika but that only does not define Madhesi. Madhesi are not native to madhes/ terai but are quite ancient settlers of the land. Madhesi also consists Brahmins and Dalits just like other cast of Nepal. While a very broad definition of Madhesi would be people who lives in the Madhes region of Nepal to the South, alongside the border with India. Here I use the word 'Madhesi student' who are from the above community of Nepal.

Public School:

Public school are those which receive regular government logistic and financial support.

Uncover:

To discover something secret or hidden factors that affect learning mathematics.

Affecting:

To have an influence on someone that cause a change in learning mathematics.

Chapter-II

REVIEW OF RELATED LITERATURE

This chapter describes the view of the relevant literature relating the various aspects linked with my research topic. The literature review helps to avoid the duplication of the work and to synthesis the previous work (Acharya, 2011). For this I review the literature by categorizing empirical review and theoretical review. The basic purpose behind the literature review is to identify the gaps of the research, develop the conceptual and theoretical framework. A careful and systematic review of the relevant literature and studies is both essential and helpful for a thorough understanding of the subject of one's study.

Review of Empirical Literature

Nasir(1997) conducted a research on '*Factors affecting mathematic in Malaysian school*' based on qualitative design. The main objectives of this study were to identify the factors affecting learning mathematics at Malaysian school and how mathematics achievement depends on school environment at Malaysian school. This study found that gender beliefs, confidence, socio-economic status, attribution of success to a teacher, motivation, enjoyment, peweess, location of the schools, school environment, ethnicity beliefs and prior achievement in mathematics where significance predictors of mathematics achievement in Malaysian school.

Neupane (2006) conducted a research on "*Effect of socio-economic status of mathematic achievement*" for this study, the researcher develop the achievement text paper, parents questionnaire from and 84 sampled students of grades 3 and 5 government school of Lamjung district. The research concluded that the score obtained by students in mathematics was founded significantly correlated with

parent education; family size and structure of family were founded negatively correlated with mathematics achievement.

Khadka (2006) did a research on the topic "*The factors influencing the attitudes toward learning mathematics to the children of ex- kamaiyas*". The main objective of this research was to find out the influencing factors in learning mathematics to be children of Ex-kamaiyas. This research concluded that behavioral attitudinal studies are the influencing factors towards learning mathematics and the affect of parental enrollment and supervision in mathematics classroom.

Bastola (2007) did a research in titled on "*Factor affecting on achievement of dalit students in mathematics*". This research had found out that, cast system the every live of people, their way of talking and behavior to other people, their relation, experience and precipitation towards other things and people. The lower caste has to be dominated by upper cast in every field such as home community, school, temple, tap sets. Caste system not only determines the occupation and everyday lives of people also less emphasis on learning and ignore the school practice in daily life. So, cultural discontinuity was the main cause of learning difficulties in mathematic.

Paudel (2009) did a research on the *topic 'Impact of home environment of mathematics achievement of grade nine'* based on co-relational study. The main objectives were to find the mathematics achievement of students with respect to their Home Environment and to determine the correlation between Home Environment and mathematics achievement. She mentioned the mathematics achievement status of students was found substantial correlated with father's education, legible correlated with mother's education, low relationship with

family size, family income, school visiting and negative relationship with homework checking.

Bom(2009)conducted a research on the topic '*Effect of home environment in mathematics learning*' based on qualitative design. There were three objectives on his research. They were to identify the learning environment for Badi students in the school, to identify the major factors involved in the home environment of Badi children which affect the learning achievement of mathematics and to access the existing learning achievement of Badi children in mathematics of lower secondary level at Rukum district. He mentioned 16 findings in this research among them the researcher found that the effecting factor related to home environment of Badi students are parents' education, family size, household work load, poverty, parent's occupation, social belief and tradition.

Dura (2014) did a research on the topic "*Factors affecting mathematics achievement of Dura students*".The main objectives were to find out the current achievement of Dura students in mathematics and to find out the influencing factors that determines achievement of Dura students in mathematics. The research was done in quantitative and qualitative design. She found that parent's education,creative advice and encouragement have vital effect on student's mathematics achievement.

Study room, guidance, consultation with friends and teacher and homework checking leads better achievement level in mathematics learning. The qualification, experience, teacher training and their unbiased treatment to the students has also influence to the mathematics learning.

All this above mentioned literature related with identified to the factors affecting learning mathematics. This all literature deal with mathematics

achievement is directly correlated with home environment, parent's education, family background, school/class room environment, motivation to the students and parents expectation towards their children ect.

Review of Theoretical Literature

The theoretical discussion is needed for the interaction of the finding of the study. There are so many learning theories related on this research topic. Since the study is based on exploring the factors affecting learning mathematics according to Vygotskian constructivism.

In facts for the social constructivist, reality is not something that we can discover because it does not pre-exist prior to our social invention of it Kukla(2000) argues that reality is constructed by our own activities and that people together as members of a society invent the properties of the world (Vygotsky, 1978) also highlighted the convergence of the social and practical elements in learning by saying that the most significant moment in the course of intellectual development occurs when speech and practical activity, two previously completely independent lines of development converge. Through practical activity a child constructs meaning on an intra-personal level while speech connects this meaning with the interpersonal world shared by the child and his culture (Google site).

Constructivism transforms the student from a passive recipient of information to active participant in the learning process. Always guided by teacher, students construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the text book. Constructivism stands on its 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
- Bom (2009).

From above axioms Upadhyaya (2001) took three terms action, reflection and scaffolding to describe three broad aspects of constructivism: psychological aspects, philosophical aspects and anthropological aspects. Concerning the psychological aspects Piaget stressed on the key word 'Action' through which the knowledge is gained. Action is considered as the prime sources of knowledge. Philosophical aspect of constructivism is also called radical constructivism which is led by Glassersfeld who advocates that knowledge is personal, subjective and unique. Lastly, anthropological aspect is termed as social constructivism headed by Vygotsky who states that knowledge is socially constructed.

From the above three views, we can conclude that the learners (students) 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 method but also use their own strategies to solve their problems on their own.

Vygotskian Constructivism

Vygotsky has developed socio-cultural theory and believed that children are active seekers of knowledge but he did not view them as solitary agents. In this theory rich social and cultural contexts profoundly affects children's cognition. Knowledge is being constructed in social situation of negotiations rather than being the reflection of the objects reality which is termed as social constructivism. Social construction believes on the multiple construction of the world.

In social constructivist theory, each human being makes sense of the 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 context that is needed for constructing the meaning. But the role of the learned person is to assist the child providing the structure and questions that provoked the assembly of that information and organization.

According to social constructivist Vygotsky, knowledge is constructed in two knowledge that is constructed and process of individual use to construct that knowledge. Thus the constructions are socially constructed and involve process of understanding, constructing meanings 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's knowledge could be predicted if we could understand the social context. The children as they go about their daily activities, we will see that they continuously talk loud to themselves as they play and explore the environment. He termed it as 'private speech' Vygotsky believed that all higher cognitive processed develop out of social interaction. By activating with more mature members of society, children come to the matured 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 levels of performance. In accordance with his emphasis on social experience and knowledge as vital forces in cognitive development, Vygotsky regarded as make-believe as a unique, broadly influential zone of proximal development in which children advance themselves as they tryout 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 play scene.

Huitts Model

Huitts(1995)identified that the major categories of variables that had been related to school achievement. The model was not only school, classroom, teacher and student based, but it included school process and characteristics, family, community, state, TV/ Movies and the global environment. The research shows that students' achievement was impacted by class size, like school size and the other variables like family and global environments mothers' education and the family expectations for students' achievement which had been shown to be excellent predictors of student achievement. On the basis of the discussed model, we see teachers and school systems, families, communities and entire countries having an influence on students' school learning. None of the variables appeared to be so influencing that we need only pay attention to that particular factors in order to produce the kinds of educational changes we desire.

Social Learning Theory of Bandura

The social learning theory of Bandura 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: form 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 cogitative, behavioral, an

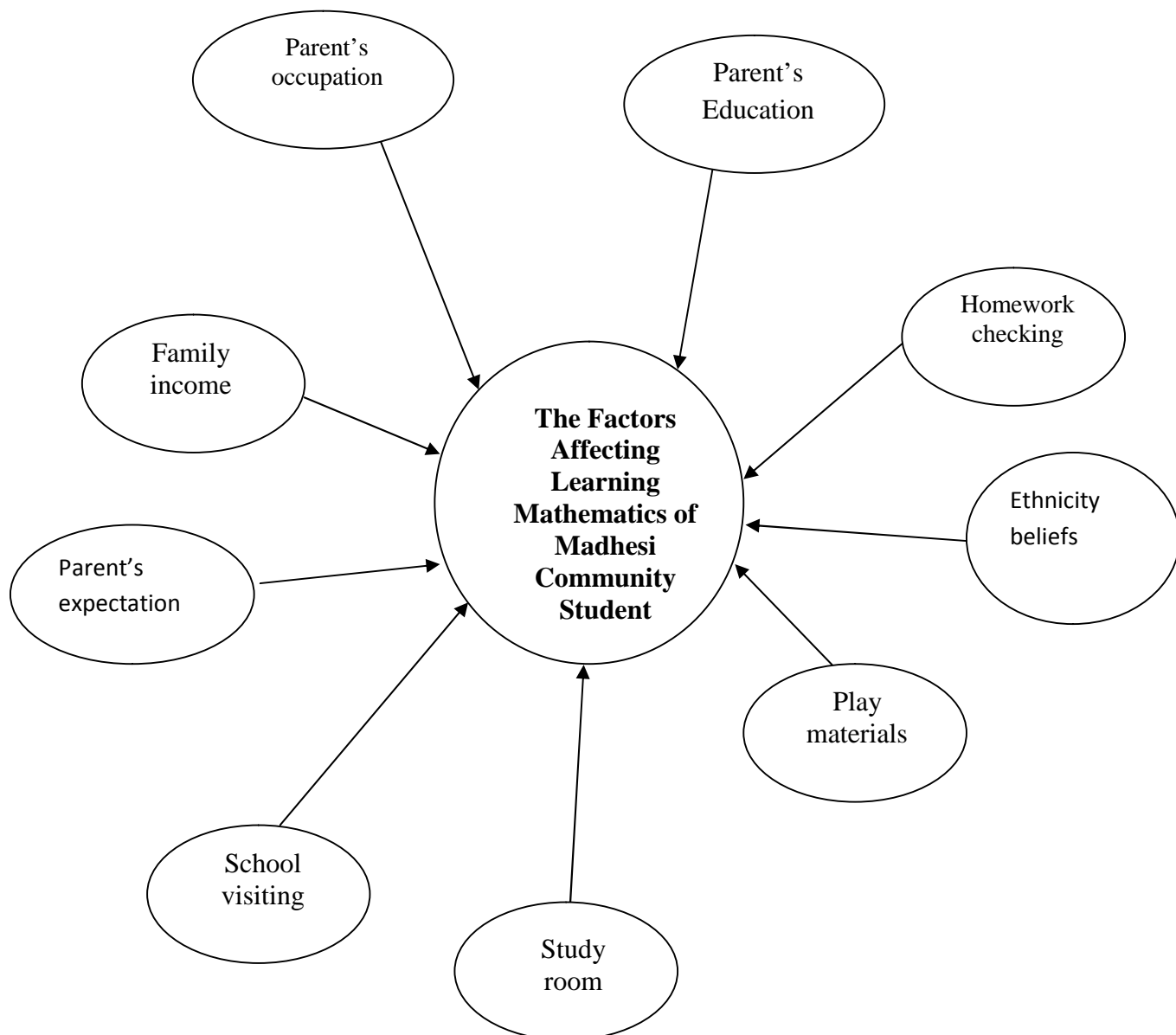
environmental influencias. The component processes underlying observational learning are:

-) Allenton, including modeled events (distinctiveness, affective valence, complexity, prevalence, functional value) and observer characteristics(sensory capacities, arousal level, perceptual set, past reinforcement)
 -) Retention, including symbolic coding, cognitive organization, symbolic rehearsal, motor rehearsal
 -) Motor Reproduction, including physical capabilities, self observation of reproduction accuracy of feedback
 -) Motivation, including external, vicarious, memory and self reinforcement
- Because it encompasses attention, memory and motivation, social learning theory frameworks. Bandura's theory improves upon the strictly behavioral interpretation of modeling provided by Miller & Doller (1941). Bandura's work is related to the theories of Vygotsky and Lave which also emphasize the central role of social learning.

Conceptual Understanding of the Study

A conceptual framework is made to uncover the factors affecting learning mathematics of Madhesi community student which deals directly or indirectly to school enrollment of child as well as their parent education. Home environment status in primary learning mathematics is taken as a dependent variable where as parent's education, parent's occupation, family income, study room, play materials, homework checking and school visiting etc.

Fig 1: Conceptual framework



Source: Field Survey, 2010.

Mathematics learning is not assumed to be effective if only the students are engaged in classroom without the assistance of home environment. So the above figure depicts the factors affecting learning mathematics of Madhesi community students. There are so many factors affecting learning mathematics. Among them parent's occupation, parent's education, homework checking,

ethnicity believes, play materials, study room, school visiting, parents expectation, family income are main factors affecting learning mathematics.

Filling the Gap

The researcher digs out the existing knowledge gap in the field of knowledge world from an academic perspective. To identify the knowledge gaps, I have applied review of the previous researches. As I know that very few researcher had been carried out on factors affecting learning mathematics in Madhesi community students. I studied many previous research works. They had not discussed the factors parent expectation toward their children, home environment and ethnicity believes. I found the gaps between the reviewed literature and my purposed title of the study. Thus to fulfill the gaps, I would like to study on this topic. So, I believed that the topic 'Uncover the factors learning mathematics of Madhesi community students' for the discussion is suitable for carrying out the research.

Chapter-III

METHODS AND PROCEDURES

This chapter deals with the procedures of the study which is carried out to achieve the objectives of the study. Research methodology does not mean only called detail information but also the use of appropriate research method. This chapter incorporates the design of the study, population of the study, sample of the study, research tools, data collection procedure and analysis procedure.

Design of the study

Research design is a way and path of the research that guides the researcher to reach the goal of the research and answer the research questions. Cohen (12000) states that research design is governed by the notion of the features for purpose and the purpose of the research determines the methodology and the design of the research.

The study was delights to examine the existing status of grade eight students achievement in mathematics and indentify the major factors affecting learning mathematics of grade eight Madhesi community students. I used qualitative design with case study approach.

Study site

As this study is qualitative in nature, it does not seek for representative characteristics for the large population (Gay, 1987). Thus the study site for this research is Nepalgunj sub-metropolitan. Among all schools of Nepalgunj, I chose GyanSagar Higher Secondary School, 6 students among 612 students, mathematics teacher and 6 parents purposively.

Sample and sampling strategy

The respondents of this research were four Madhesi students of grade eight, their parents and mathematics teacher selected purposively. Four students of grade eight were chosen for the case study. Four parents, mathematics teacher, headmaster, SMC chairperson and PTA chairperson of this school were other respondents for this research.

The following table shows the information of selected Madhesi children.

S.N.	Student name	Gender	Residents	Parents: father & mother	
1.	AjayaKhatik	Male	Paraspur	PremSonkar	BundalaSonkar
2.	SadhanaKalawar	Female	Dhodegau	RajendraKalawar	PuspaKalawar
3.	NabinVerma	Male	Saigau	TulsiramVerma	BanderiVerma
4.	Arsad Idrishi	Male	Paraspur	Arimad Idrishi	Ramajaha aaidrishi

Research Tools

Data collection is most important part of the study. Tools are very impotent in each study. There are many tools for the qualitative research to get the information from the respondents about their experience ides and beliefs. The main tools for this care study were as follows:

Interview Schedule

A schedule is a set of question with structured answers to guide an observation interviewer research or investigator it is a plan or guideline for investigation according to Thomas cursor the schedule is nothing but a list of

question which is necessary to test the hypothesis in simple words schedule is a set of questions formulated and resented with specific purpose for testing an assumption or hypothesis according to P.V. young it is a name applied to a set of question which are asked and filled in by the investigator different semi structured interview schedules (Appendix iii, iv) to collect the information from mathematics teacher students and their parents .

Observation

Observation as the systematic description of events, behavior and artifacts in the social setting, chosen for study(M&R.1989). Observation enable the researcher to describe existing situations using the fine senses providing a write photograph of the situation is the primary method used by anthropologists doing field work. Field work involves acting looking detailed field notes and perhaps most importantly patience(Dewalt, 2002)

Observation methods are useful to researchers in a variety ways so the class observation form (appendix ii) was developed by the researcher with related to the objectives of this research student regularity, teachers behavior, student performance, home environment, study room were included on the observation from. Different activities of Madhesi student, mathematics class and the school environment home environment and ethnicity were observed by the researcher as participant.

School Document and Records of School, Related to Study

Students regularity, result sheet, students previous performance, school progress, school visiting records by parents, evaluation system of school where noted from school records and documents.

Data Collection Procedure

To collect the required qualitative data, mathematics classroom was observed by the researcher for three days and students study room for three days. Interviews with mathematics teacher and parent were taken with the help of semi-structured interview schedules. Questionnaire for students was administered and collect, after their responses. School documents and records of school, related to study were observed by the researcher and collect the necessary data of the focused students and their parents.

Quality Standard

After completing the construction of the research tools, it is necessary to maintain quality standard. For the quality standard the reliability and validity of data were maintained by the following techniques:

Triangulation

Triangulation is a method to get an accurate and reliable picture of situation. The researcher was trying to understand by collecting different kinds of information from different perspective, from different sources and with different tools. Here I used data triangulation where the data were obtained from the class observation, interview with teacher, students and parents. This helped to mention reliability of the data interpretation.

Prolong stays in the field

For collecting the data I stay one month in a field in which the mathematics classroom was observed for three days and students' study room for six days. Interview was taken for two days and school documents were collected

for two days. In the field which I saw and found were taken as the data for research. So I claim that the reliability and validity of the data.

Data Analysis and Interpretation

The data analysis and interpretation is the process of systematic searching and arraigning the information's from the research tools. The collected data was analyzed by the help of different theories and literature mentioned in the literature review section. Data analysis is an ongoing process which is not only the answers the questions but also gives the directions for future data collection. Data analysis procedure helps to analyze the data. All collected data from the individual teachers, students and parents from the case school were categorized according to category of response of different respondents and difference themes were given in the text of the interview and observation notes. The data were analyzed and interpreted by using different theories, literature and triangulation process.

Chapter-IV

ANALYSIS AND INTERPRETATION OF DATA

This chapter deals with the analysis and interpretation of the collected data from the care school. The purpose of the data analysis and interpretation phase is to transform the data collected into credible evidence about the development of the intervention and its performance. Data were acquired from the students, parents, school administration, teachers, home environment, and school environment with the help of observation, interview and questionnaire. School records and other related document were also reviewed for data collection. The views of school staff and stake holder were also taken for additional information. I categorized the data of the different respondents according to their response. The data were analyzed and categorized according to the following topics:

-) Introduction of the case school
-) Class room activities of mathematic learning
-) Teachers and students works in classroom
-) Reinforcement in mathematics learning
-) Methods of teaching and learning mathematics
-) Parental involvement in learning mathematics
-) Evaluation system of student achievement
-) Student attraction in technology
-) Ethnicity beliefs
-) Parent's expectation
-) Parent's occupation
-) Home environment

Introduction of the Case School

In the introduction of case school, it was described it in terms of location, historical background, physical facilities, demography of teaching and non - teaching staff.

Location of the School

Gyansagar Higher Secondary School is one of the popular schools in Nepalgunj sub-metropolices. It is in the west of Surkhet road. It lies in the centre of Banke district. Since the school is in rural area, most of the students of this school are from working class family. Only few percentages of guardians are businessman and job holders. The school is surrounding by Madhesi community.

Historical Background of the School

Initially this school was established in 2017 by the name of division education school. At that time school had no any building but the social service Ram din Kurmi provided two ropani lands for the school and contributed in the development of the school. At that time there was only a few numbers of schools in these areas. This school has played great contribution to elaborate the educational awareness to the people. Many years school started as primary school. It was regarded as lower secondary in 2055 B.S. The school has taken part in first cent-up examination in 2060 B.S. The school was registered as a higher secondary school in 2068 B.S.

Teaching and Non-Teaching Staff of the School

Teacher plays an important role in the production of qualified outcomes. Teacher is a guide for students. Teacher helps the students to reach in distinction. So, the teacher is a ladder in which the student climbs and got peak of his life.

Different reviewed literatures have given important place to teacher in better achievement. The main agent of the better achievement of school is well trained, qualified and sufficient teachers.

There are four teachers and 220 students in lower secondary levels in this school. The ratio of the teachers and students in this school is 1:55. The standard ratio for Nepalgunj is 1:50. It shows that lacks of teacher in this school for teaching efficiency. The details of teachers for lower secondary level of this school, given below:

Teachers Demography for Lower Secondary Level

S.N	Name	Subject	Qualification	Training	Remarks
1.	Mo. Kamal Ansary	Science/ Mathematics	M.A.	Trained	Temporary
2.	Premkumari Sharma	Social	M.ED.	Trained	Permanent
3.	Man Bdr. Khadka	English	M.ED.	Trained	Permanent
4.	BhairajaSribastav	Nepali	M.ED.	Trained	Rahat

According to above demography, all of the teachers are post - graduate from different subjects and they have taken different kinds of training provided by DEO, training centre and resource centre. The head teacher of this school is also trained, well experienced science and mathematics teacher.

Physical Facilities of the School

Physical facilities including building, teaching materials, furniture, ground and other concrete material. Well physical facilities increase educational achievement. It helps teaching learning activities.

The school is surrounded by school building and wall. There are four buildings and 16 rooms. This school has a computer lab which contains four computers and a printer, staff room, library and office room. The ground of the school is not sufficient for students to play and conducting the weekly programs. There are two taps for drinking and three toilets for girls, boys and another for staffs. According to students the water is not pure for drinking. The school is going to improve drinking water according to head teacher.

Physical Facilities of the School

Area of the school	2 Ropanies
Number of building	4
Number of rooms	16
Number of computer	4 with 1 printer
Number of furniture	150
Number of cupboard	14
Number of sofa set	3
Number of white board	12
Number of toilet	3
Number of tap	2
Play ground	1

The school has not sufficient teaching materials for mathematics learning and not sufficient play ground.

'The school is going to establish a science lab and library by the help of DEO'(Head teacher).

I did not see any materials for mathematics teaching and learning.

Mathematics is a conceptual subject. Many topics in algebra are difficult to understand but there are no any such materials which help to gain more knowledge for students but in this school the physical facilities are not sufficient which affects the student's achievement in mathematics.

Classroom Activates for Mathematics Teaching Learning

Classroom is a room where teaching learning activities are conducted.

Classroom activities are all activities inside the classroom. It includes all activities of teachers and student in classroom. Classroom is a palace where students learn through their participation in the attainment of knowledge by solving problems and articulation what they have discounted. Teacher teaches their student or performs what he teaches to their student in classroom. Thus the activities that are done in classroom are known as classroom activities. In this topic the researcher presents the teachers and student work in classroom, reinforcement in classroom and methods of teaching and learning mathematics in classroom.

Teacher and Student Work in Classroom

Teacher is an implementer of curriculum in classroom. He is also guide or an instructor who provide reinforcement motivation, different curriculum and extra-curriculum activities to better achievement. Teacher is an evaluator who evaluates their student and encourage toward the better achievement.

Students are the main focusing point of education or students are the main pillar of education system. To do the work given by the teacher, do curricular and extra-curricular activities, participating in school program today the rule and regulation formed the school and activity are the main tasks of students. In the

process of data collection I observe the class in which I watch the teachers and students works in classroom. Here is a sample of an observed class.

Episode-One

In my observation class mathematics teacher went to the class with daily use materials and presentation register. I entered along with the teacher in the classroom. All students stood up and said, 'good morning sir' then the teacher said, 'good morning student, what about you?Are you all fine?' and he required to sit. There were 25 student presented out of total 62 student. The classroom was fulfilled by furniture there was no sufficient space to reach one palace to another. The class room was no ventilated and well lighted. Teacher wrote the topic profit and loss in the white board. At first the teacher reviewed previous class and discount about the conditions that make profit and loss. He wrote a problem in the board and asked to find profit or loss. Front of the class, one boy student solve the problem. Other student could not solve this problems then the teacher discussed again about the condition that make profit and loss and solve the given problem. At that time student were busy to copy together with the teacher. Teacher gave same type of problems from the text book to the student. After the teacher moved along with the student and checked students activities only a few student can solve this problem. The teacher repeated

the same process and solves himself then the students copied in their copy. Finally the teacher emphasized the main points, wrote the formula and gave homework for the students and left the class.

The above episode shows that the teacher uses the lecture methods in teaching mathematics. He also used discussion methods. The teacher was well prepared.

With the help of class work, the teacher evaluated the students' achievement. The students were not active in learning process. Sometime the teacher used student centered method for teaching mathematics.

There were total 62 student but only 25 students were present in classroom. It is nearly one third of the total students. The students were very weak in mathematics except five students. I saw the presentation registered, no students were regular present in class. The teacher used the Nepali language in the classroom but all of the students were Madhesi community. Their mother language was Awadhi. The classroom was not so attractive. Only the teacher was active in classroom. The teacher should be as facilitator for student in classroom but neither transmitter of the knowledge. The teacher should use different instructional materials in teaching. The main problem was irregularity of student, said the teacher. This is community based school so no one parent come to school and watch their children's achievement. The school has no policy for better achievement, said the teacher.

Reinforcement in Mathematics Learning

Reinforcement is a term used in apparent conditioning to refer to anything that increases the likelihood that a response will accrue. Note that reinforcement

is defined by the effect that it has on behavior. Reinforcement is very effective process to make better of student's standard. Reinforcement is very useful for mathematics learning. There are two kinds of reinforcement positive and negative. Positive reinforcement is most important and most widely applied principle of behavior analysis. In negative reinforcement a response or behavior is strengthened by stopping, removing or avoiding a negative out comes. So both positive and negative reinforcement is important to achieve better achievement.

'When my children get prize, they become very happy and do hard work for better achievement' (Parentis view).

'We provide prize for the students who stand in first, send and third position in different fields like study, neat and cleanness, regularity, discipline etc' (Head teacher).

'I reward the students with pen, pencil, copy, chocolate, who comes regular in classroom and do homework regularly'(Class teacher).

'Sometimes we reward the student by clapping and praising in the classroom. It also supports for better achievement and initiate the intuitive pooler'(Class teacher).

'I am very poor in mathematics, I always try to do my homework but not able to solve the problem then teacher give punishment. I am worried about mathematics. Teacher always beat and punish. So I don't like mathematics and mathematics teacher'(Student).

'I become very happy in mathematics class. I love mathematics. Teacher helps us to complete the problems, always give us

homework and check it regularly. I become very happy when teacher praise me'(Student).

From all above it indicates that school motivates students by providing different material and clapping and praising in the classroom. Mathematics teacher also rewards the student by providing pen, panels, copy, chocolates for better achievement. There are two kinds of students one love mathematics and another has anxiety of mathematics in classroom. Some students participate to study hard by providing different prizes but it cannot motivate students in the class.

Reinforcement is important for better achievement in mathematics. It encourages the students to practice the problems and achieve better result but here the mathematics teacher did not able to motivate all student and encouraged in mathematics learning. Some students have anxiety of mathematics in mathematics class. In case school, mathematics teacher used bath positive and negative reinforcement. Positive reinforcement for talent student and negatives reinforcement for weak student. It could not encourage in learning mathematics by such reinforcement. Thus, we should use reinforcement always to encourage students for better result.

Episode- Two

The mathematics teacher entered into classroom with daily using materials. All students stood up and said 'good morning sir'. The teacher replied 'good morning' and said 'sit down'. I also entered into classroom with mathematics teacher and sit backward of the classroom. There were 40 students out of 62 students in the classroom. The teacher wrote the topic 'Simple interest' on the

board and discussed about daily life problems related to Simple interest. The teacher wrote different formula for calculate simple interest and discussed about different terms about simple interest such as principle, interest, rate, time, amount etc. The teacher did not use any concrete teaching material except daily using materials. The teacher solved one problem on the board and discussed the process to solving it. After then teacher gave one another problem on the board to the student to solve. Nearly half students did that problem correctly. Again the teacher discussed the method of solving the problem. Lastly the teacher gave some home work and left the classroom.

The above episode shows that the teacher used lecture method and student were passive in the learning. There was lack of instructional materials. It was better to using student centered teaching method. Nearly half of the total students were absent in the classroom. Students were passive in learning mathematics. The mathematics teacher did not worry about their classroom environment and student learning.

Methods of Teaching and Learning Mathematics

Different topics in mathematics are to be taught using teaching method. There was several established method for teaching mathematics. There is no specific method for specific topic. It would be interesting to do a psycho-educational assessment of pupils or students to see what would for them the most appropriate methods for better understanding.

Teaching mathematics in school level moves beyond traditional lock-step approaches to teaching mathematics to emphasis how students can learn to think mathematically in the new times of globalization and technology rich society.

Based on current international research the book focuses on learning outcomes and the general principles that underlie educational practices rather than any specific curriculum. Current approaches to mathematics education are explained and critiqued and insights into why some students have difficulties with mathematics are provided. Teachers are shown how to encourage their students to develop deep learning in mathematics and to relate mathematics to the curriculum.

Methods are the way of transmitting knowledge. There are different methods for teaching learning mathematics. Some methods are teacher centered, they are old and traditional rather than student centered teaching methods. For mathematics teaching, students centered methods are effective. So here I explained the methods that used in care school for mathematics teaching and learning. Here is a sample of observed class in care school.

Episode- three

The teacher entered into the class room with geometry box and daily using materials. Then all students stood up and said, 'good morning sir' teacher also said, 'good morning' and requested to sit down. There were 32 students out of total 62 students in the classroom. The teacher wrote the topic 'construction of regular polygon' on the board. Then he discussed about general ideas and terms about polygons of previous class. He also wrote the word 'pentagon' and discussed about the

general ideas to construct pentagon. But the teacher did not use any concrete materials for the example of pentagon. The teacher constructs a pentagon of sides 5cm with the help of scale and compass on the board and discussed about the process of contraction. At that time student listen the teacher and watched carefully and then copy it. The teacher gave another construction of pentagon of side 4cm from text book as class-work. The students were engaged to another construct it. The teacher moved among the students and consulted the student personally. At the last of class the teacher gave home work and left the class. In the observed class only 32 students were presented out of total 62 students. It was nearly half of the total students. The observed class shows that the teacher used teacher center methods for teaching mathematics. Sometime the discussion and student centered method were used. The teacher did not use any concrete materials but engaged the student by providing different examples.

‘The main problem of this school is irregularity of the student. I never meet all students in classroom except examination’ (Class Teacher).

‘I use different method, like problem solving, discussion, lecture, inductive, deductive for the mathematics teaching according to the content of the lesson but there is no any concrete material for teaching materials in this school’ (Teacher).

‘ The school organizes different assembly and meeting. We discuss about regularity of the students but we are unable to increase regularity of the student’(Head teacher)

The above views show that the teacher is free to select teaching methods. Some time he also used the problem solving and discussion methods. There was lack of teaching materials. Mathematics is conceptual subject and teaching material helps to understanding such mathematical concept. But the teacher did not show any concrete teaching materials except daily use material in mathematics teaching. Another problem of this school was irregularity of the students. Hardly nearly half student of total students were present in classroom. All students were from poor economic and educational status so most of the students were engaged in house hold work. Only the few parents were worried about their children’s education. Rest of all wants their children should do any works and earn money.

Parental Involvement in Learning Mathematics

It is said that home is first school and parents are first teacher for a child. Parent involvement in learning helps students to get better achievements. Parents involvement in school activities, homework checking, monitoring and guiding student work at home, manage the instructional material, school visiting, manage the learning environment at home. So I discussed about these factors in this topics.

‘We inform all parents as possible by sending information with their children in every function but a few parents came to school’(Head teacher)

'Nearly 80% parents are uneducated and they are busy on their own work and they do not concern about school and their children education'(TPA, Chair person).

The above views shows that there is a gap between school and community. The school invites the parents but they did not present in school. They were busy on their own work. Most of them were uneducated and did not concern about their children education. Mostly they did not manage instructional materials and home environment for study to their children.

'We have no any sources and parents do not want pay for extra-class. So we cannot conduct coaching classes for mathematics'(Head teacher).

'I am poor in mathematics. There is no one to guide me for mathematics learning and doing home work at home'(Student).

'I want to take tuition classes for mathematics but my parents do not support me'(Student).

The above views show that students feel, mathematics as a hard subject. They need guide and monitor at home for mathematics learning. Some students need especial tuition class for mathematics. Parent did not support them for tuition class and coaching class because they were from low economic and educational background.

'You know I depend on wages. I do not go for work; I cannot maintain my family, so I cannot attend in the school'
(Parent view).

'Sometime when I visit school then I asked to the teacher about my children and request to provide extra class'(parent view).

The above views indicate that there are two kinds of parents in this school. One kind of parents is worry about their children and they visit school and teacher and take information about their children. Another parents they do not pay attention towards their children's education. They are busy on their house hold work and wages. They are uneducated and traditional their children are irregular and so weak in learning mathematics. Thus, the parents who are worried about their children's education their children are active in learning mathematics and the parent who does not pay attention towards their children's education their children are very poor and weak in learning mathematics.

Student Evaluation System in Case School

Evaluation is an ongoing process throughout we determine what the educational objectives are being realized. Evaluation is the process for determining the degree to which the desirable changes in behavior are actually taking place (Tayler). "Evaluations continuous process and is concerned with more than the formal academic achievement of student (Moffat). Thus evaluation is continuous process throughout we can determine wither our objectives are achieved or not. There are different techniques to evaluation student's achievement. Formally we can use different tests like unit test, half annual test and annual test. We can also evaluation our students informally by observation, checklist, rating scale etc.

'I regularly evaluate my students by homework and class work and sometimes I take unit testalso'(Teacher).

'It is very difficult to manage students in classroom at exam time. We have nearly double students at this period'(Head teacher).

These views show that the teacher use continuous assessment system and evaluate their students. The head teacher's view shows that student take examination very carefully. Those students who never attend in class room also take each examination. Thus examination takes very important place for students.

'I attend every examination. My parent forces me to attend examination. 'If I do not attend in examination, I have to study in same class in next year' (Student).

This view indicate that examination is important than study for student. They want to go upper class rather than learn knowledge. Parents also want to pass their children. They do not check their student, they are able to solve the problem or not. Hence it can say from the above views that teacher use different evaluation techniques to judge their student's achievements but students and their parent use it as a ladder to climb upper class. There is a gap to understand evaluation system and it affect in teaching learning process.

Access of ICT in Teaching Mathematics Learning

The introduction to ICT course is intended to do more than teach basic computer literacy skills on current package. It provides a combines of theoretical knowledge and practical skills than together comprise a mental frame work that will enable the student to adopt and learn new IT problems and use additional package features. The course has a strong practical focus with the intention of enabling student to use ICT as tools for productivity and problem solving in lives.

Mathematical calculation has become a cause of headache from elementary through advance level mathematics students. Every difficult calculation is only the click away through the use of several technology products. Using ICT in mathematics class not only makes learning effective but also it

brings creativity in the student. Nothing remains difficult if we use various apps and device where necessary. Use of ICT promotes the concepts of learning by doing as proposed by many modern educationists. Learning by doing helps the skill to be mastered and sustainable.

This is the age of ICT no aspect of our life is untouched by it. In other word ICT and mathematics are interrelated. The development of the mathematics is not possible without the use of ICT and vice versa. Modern ICT tools like computer are based on binary system of mathematic. Binary system suffers to solve most of the mathematical calculation existing in our modern days.

‘We have a computer lab in our school but we cannot use it properly. We cannot connect it with mathematical concept. We cannot use it in classroom teaching learning’(Teacher).

‘I have no television and computer at home. Sometimes I go with my friends to see different program on television. My parent does not allow me to go with my friends to see it’(Student).

‘We have computer lab in school but I never touch it. Sometime in computer period, we all go there with computer teacher and teacher shows us different program on it’(Student).

The above views show that there is no access of ICT in mathematics learning. School has a computer lab but it is also useless or it cannot be used properly. Most of the students have no computer and television at home. They want to use it, see it. But they are away from its scope and advantage. Many rich and developed counties like USA, UK Australia etc have already integrated their mathematics curriculum with ICT while developing country like Nepal is yet to formulate new education policies integrating mathematics curriculum with ICT.

Those nations where ICT is used are able to produce qualified and skilled mathematics teacher.

Episode-four

My four classroom observation was class eight, mathematics.

There were 62 student, only 40 students were present that day. I entered the classroom with subject teacher and sit with students behind the classroom. Teacher started to teach the lesson L.C.M. and I observed the class. Teacher wrote the techniques to finding the L.C.M. on board and gave some related examples. The teacher solve problem by teacher centered method. Lastly, the teacher gave some questions for homework and left the classroom.

In my class observation, I observed that, the teacher entered the classroom and he started to solve the problems by lecture method. He did not review previous related knowledge. The students copy this in their notebook. Only the teacher was active but students were passive in the classroom. From this observation I found that without activeness of learner, learning mathematics cannot be effective and mathematics achievement being poor.

Ethnicity Beliefs

An ethnicity is a socially defined category of people who identity with each other based on common ancestral social cultural or national experience. Unlike most other solid groups ethnicity is primarily an inherent status membership of an ethnic group tends to be defined by a shared cultural heritage ancestry origin myth, history, homeland, language and or dialect symbolic systems such as religion, mythology and ritual, cuisine, dressing style, art and physical appearance.

Ethnic groups derived from the same historical to under population after continue to speak related languages and share a similar gene pool. By way of language shift, acculturation adoption and religious conversion, it is possible for some individual or group to leave one ethnic group and become part of another.

In this Madhesi community most of the people are from Muslim religion. They strictly follow their religion. In every Friday at 12 o'clock, they go for pray their god. The students and teachers have allowed leaving school every Friday after 12 o' clock.

'Every Friday at 12 o' clock, students go for pray their God (read Namaj), the community has allowed them to leave school for them after 12 o'clock' (Head teacher).

'We have to go for pray our God (read Namaj) every Friday at 12 o'clock. So we leave school every Friday after 12 o'clock' (Student).

The above views show that their ethnicity belief. Every day morning they go to Masjid for pray the God (Allah) and every Friday at 12 o'clock they pray their God (read namaj). So the students leave the school after 12 o'clock every Friday. Most of the students are engaged on their religion and religious tasks. Directly and indirectly it affects the student's achievement.

'Nearly one – third student in primary level go to Madarsa they come here only in exam period' (Head Teacher).

This view also indicates that ethnicity beliefs affects in learning and regularity of students. In this community students go to Madarsa School and take Urdu class also. They come here to attempt examination only. It is necessary to

take Urdu class for them. So this factor is also affects learning mathematics and student's achievement.

Parent Occupation

Parent occupation also affects the children achievement. The home environment depends on parent occupation and children learning and achievement depends on home environment. Thus parent occupation affects children achievement. Children spend more than half time in home environment. Thus home environment should be favorable for learning. It helps in children achievement. The parents who engaged in facilitate occupation, they take care their children in learning. They guide and encourage their children in learning. They help in home work they visit school and take information about their children. It promotes their children achievement but the parent who is engaged like agriculture occupation. Most of them they do not know the importance of education. They are uneducated and cannot guide their children in learning.

'My parents are works in field. Sometimes I help them in working'

(Student).

'My father is in abroad, my mother work in field' (Student).

Most of the parents in this school are depends in agriculture and labor work. They do not know the important of education. They cannot guide and helps their children in learning. Students in such family cannot get favorable home environment in learning. Thus those students in such family become low achiever in learning mathematics.

Parent Expectation

Expectations, parents have for their children school attainment influence their children expectation and achievement and early expectation tends to persists

throughout the child school years. Research has shown that parental expectation for children academic achievement predict educational out comes more than do other measures of parental involvement. Parents expectation influence child out comes through multiple pathways. Parental expectation is more likely to affects their children when parent child relationship is characterized by closeness and warmth. Parental expectation directly affects the amount of parent child communication about school. In addition families with high educational aspiration for their children provide more out of school learning opportunities for them. Students who supports their parents expected them to attend college had better attendance and more positive attitude towards school according to one study. Parental expectation and aspiration for instance, studies, suggestion that parents expectation for their children academic attainment have a moderate to strong influence on student own goals for post secondary education. Further both characteristics of the parent, child and community (<http://nces.ed.gov/nhes/>).

Parent expectation depends on their family background, parent occupation, parent education, economic status and family size. This school is in Madhesi community and most of all parents are depends on agriculture and wages. They have no any high expectation toward their children. Thus they engage their children in household work rather than school and promote educational status. It directly affects the children achievement.

‘Parents never come to school and take information about children. They only come here in the period of admission and then they never return to the school’ (Head Teacher).

The above view shows that parents do not pay attention toward their education. They do not want to spent and invest toward their children’s education

and learning. Most of the parents do not know about their children's achievement. They never visit the school and take information about their children. It indicates that they have no high expectation about education toward their children. It directly affects children achievement.

Home Environment

A home is a place of residence or refuge and comfort. It is usually a place in which an individual or a family can rest and be able to store personal property. Home environment refers to aspects of people domestic lives that contribute to their living conditions.

It is said that home is first school for a child from where he learn many things. Children spend more than half time in a day at home. They can learn different things at home. Parents may be heavily invested in their children cognitive development and spend time with them on learning. Some parents pay full attention towards their children's development and learning and on the other hands some parents do not pay attention toward their children's education and learning. It depends on parent expectation toward their children and home environment also depends on parent expectation toward their children.

'My home is not good place for study. There was noisy environment' (Student).

'Nobody had separate room for study at home. They were study in common room' (Teacher).

From above views nobody had separate study room in their home. Home environment is not favorable for study. In home environment, there are several factors that influence on learning mathematics. Here I mentioned some factor and described how they affect in learning mathematics.

Family Size

Family size affects the children achievement. Those parents who have the small family size can provide the educational, economical and other facilities than large family size parents. In large family size, parents have more responsibilities and needs. They cannot achieve such facilities.

'I have seven children, total family member is eleven. Out of seven children five children go to the school' (Parent).

'Most of the parents have at least four five children with birth duration of 2/3 years' (Head Teacher).

These views show that most of the parents in this community have large family. Most of the Madhesi children are out of school and those students who are in school are also poor in learning mathematics. The parents who have one or two children their children are active in learning mathematics and their achievement score is also high than large family children.

'Small family children comes school regularly with proper uniform. They do home work regularly than large family'(Teacher).

These views indicate that the small family children comes school regularly with clean uniform. They do home work regularly than large family. Large family cannot fulfill all children need and they become low achiever in education. But small family children can get more facilities, care and guide from parent, thus they can learn better than large family.

Family Income

Two kinds of parent are livers in this community. But economically most of them are poor. The parents who are strong in economics their children go to private school. But the parents who cannot pay for their children their children come here (this school). They are from poor economical condition and large

family size they cannot get reinforcement, encourage and guidance from their parents. Parents cannot invest for their children and then such children cannot get academic home environment.

Study Room

Study, in a room in a house which is used for paper work, computer work or reading is called study room. Historically the study of a house was reserved for use of the private office and reading room of a family. Father as the formal head of a household but today studies are generally either used to operate a home business or else open to the whole family.

A typically study might contain a desk, chair, computer, lamp, book shelves, books and file cabinets. A spare bed room is often utilized as study but many modern homes have a room specifically designated as a study. Other terms used for room of this nature include home office or library. (www.studyroom.com)

I observed some selected student's study room for my research. I did not found separate room for study in their house. Students do their home work in bed room, sitting room and in front of their house. Study room is a place which contains desk, chair, different books, magazine, computer and other instructional materials. Such study room promotes students achievement. It create learning environment at home but in the study site I did not found such house and such study room. Most of the student read with their family, do home work in the kitchen or in the bed room along with their family. They do not have well study room at home. It affects in learning mathematics and students achievement.

Household Work

Most of the people in Madhesi community depend on traditional agriculture, wages and trade. In school age, most of the children are engaged in wages. Some students work in their own field, house and shops and some students go to the work to other as a labor to earn money. Most of the students are engaged in household work in this community so they absent in school. According to students they couldn't get enough time to practice on mathematic problems. They have to work every morning and evening (out of the school time) so they cannot get enough time to study and join any tuition class. So their performance in mathematics is poor and they become low achiever in mathematics. Thus the household work affects their learning mathematics.

Play Materials

The time children spend playing with peers, toys and games can be time to learn new skills, practice their existing abilities and build their interests especially in mathematics. There are many modern play materials which can promote fundamental math skills, for example children can practice counting skills when playing with pretend money, spatial skills when putting together a puzzle and geometry when building with blocks. But in Madhesi community children are from poor economic condition and their parent do not pay for their children. They do not want invest in their children's education. Thus the students have no such play materials. These play materials directly helps in learning mathematics in primary and lower secondary levels. If the students build good understanding in lower classes they can also do better in upper classes. Thus the play materials give concrete knowledge and develop understanding. It helps in learning mathematics.

CHAPTER-V

FINDINGS, CONCLUSION AND IMPLICATION

The purpose of this study was to obtain the factors affecting learning mathematics of Madhesi community student. This is a case study on community based school. There is a religious diversity, cast-hierarchy and occupational varieties in Nepalese-society. There are different casts in Madhesi community. Most of case community, most of them are uneducated and traditional. They do not know the power of education. According to national record, this community is very back in educational and economic status. Most of the people in this community are Muslim and they strictly follow their religion. They highly involved in their religious works. They believe in god and pray in every morning and evening. Most of the children go Madarsa for primary education and they take Urdhu classes. Urdhu font and Nepali font are quite different and opposite thus it affects in upper classes. The parents who heavily invest to their children and their education, their children's academic achievement is also high than the children whose parent cannot invest and pay attention toward their children. Most of the children are out of the school and the children who are in school are also engaged in different works and wages. Educationally, Madhesi community children are very back. In this community children are very weak in mathematics. Thus in this I attempt classroom activities for mathematics teaching learning, teacher & student's work in classroom. Reinforcement in mathematics learning, methods of teaching and learning mathematics, evaluation system in school, access of ICT in mathematics learning, ethnicity size, family income, study room, house hold work

and play materials. These are main affecting factors in learning mathematics in Madhesi community students.

Findings

-) The physical condition of this school is not sufficient. Such as teaching materials, library, teacher guide, mathematics lab play ground etc.
-) The teachers are qualified but not sufficient
-) Teacher student ratio is 1:55
-) Most of the parents are uneducated and traditional they do not pay attention toward their children's education.
-) Mathematics teacher is qualified and high experienced but he used teacher center teaching methods, mostly.
-) The teacher takes class test and monthly test to evaluate their student's achievement.
-) Nearly half students were irregular go in school, they only attend school in the period of examination.
-) Family background of children of that community is poor in each aspect.
-) Teachers do not use the teaching materials at the time of teaching every day.
-) School use reinforcement in learning but the parents do not pay attention and encourage their children in learning mathematics.
-) Parent never come school and takes information about their children.
-) This is the age of ICT but there is no access of ICT in teaching learning mathematics.
-) Most of the students are from large family and low economic background.

-) Students do not get academic environment at home they should do many works morning and evening.
-) Extra classes are not provided by school administration to students who are low performer in mathematics.
-) There is no good relationship between teacher, parents and school management committee.

Conclusions

From the above findings, following conclusion can be drawn:

For the better performance in mathematics, various factors are affected in learning mathematics. Only the qualified and well-experienced teachers and laborious students are not considered as the affecting facings for better achievement. The teaching learning strategies, school environment, home environment and parent involvement in learning are the key points of better achievement. The learning methods and materials, teacher and students activities in classroom, teacher, students, and parent relationship regular supervision evacuation system, motivation and guidance are also affecting factors in learning mathematics. Ethnicity beliefs, parent expectation toward their children and reinforcement are also major factors that affecting learning mathematics.

In the school, the school environment is appropriate and teachers are also qualified and trained but the student achievement is very poor. Thus I went to students home and their community and their culture to find out the cause behind it. I took different information and analyzed it. From my study I draw the main conclusion mentioned as below

-) The achievement level of Madhesi community students is not satisfactory.
- The main factors affecting learning mathematics are home environment,

ethnicity beliefs, parent involvement and parent expectation towards their children education.

-) This community is backward from educational and economic status. In this community, peoples do not want highly invest in their children's education. Thus their children's are become low achiever in mathematics.
-) Another main cause is irregularity of students in classroom. More than 50% students are always absent in classroom. They go to Madarsa school and house hold work also. They only attempt in examination and become low achiever in mathematics.

Implications

This is a case study about the Madhesi community students in community-based school in Banke district. The main objectives of this research are to identify the learning environment of Madhesi community student and to identify the major factors affecting learning mathematics of Madhesi community student. The findings and conclusion of this study cannot be widely generalized in all school's learning mathematics. But it will be the basis for the further study. This study is a case study related to factors affecting learning mathematics in Madhesi community student. Thus this research will help to further research based on Madhesi community students. Thus this research will help to further research based on Madhesi community students.

-) This kind of study can be done in all levels and other subjects as well.
-) Various academic programs should be launched this community to aware the people.
-) For more valid and reliable findings it can be widely extended.

-) Parent should invest and pay attention toward their children's academic achievement and make favorable home environment for learning mathematics.

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Appendix I

School Survey Form

Name of the school.....

Address.....

Location.....

Class in operation: gradeto.....grade

Number of student enrollment at lower secondary level:

Class	Male	Female	Total
6			
7			
8			

Information of school staff:

S.N.	Name	Qualification	Level	Training
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Educational materials and physical facilities:

- i. Availability of library for student in school:
 - a. available
 - b. Not available
- ii. Availability of teaching material
 - a. available
 - b. Not available
- iii. Availability of math lab in school
 - a. available
 - b. Not available
- iv. Availability of drinking water in school
 - a. available
 - b. Not available
- v. Availability of play ground in school
 - a. available
 - b. Not available
- vi. Availability of separate toilet in school
 - a. available
 - b. Not available
- vii. Availability of furniture in school
 - a. available
 - b. Not available

APPENDIX II

Class Observation Form

Date:

Name of the school..... Time.....

Name of the teacher..... Subject.....

Initiation of class	Vg	G	S	P	R
Teacher's punctuality					
Self confidents of the teacher					
Introduction of the lesson					
Based on previous lesson					
Class arrangement					
Student motivation					

Presentation of the lesson	Vg	G	S	P	R
Stimulating recall of prerequisites					
Presenting the content with its features					
Example and non-example					
Use of teaching materials					
Student participation in learning					
Reinforcement and feedback					

Teaching methods	Vg	G	S	P	R
Lecture					
Discussion					
Problem solving					
Question answer					
Demonstration					

Closing the lesson	Vg	G	S	P	R
Summarize the lesson					
Giving class work/ home work					
Student evaluation					

Where, Vg means Very good

G means Good

S means Satisfactory

P means Poor

R means Remarks

APPENDIX III**Interview schedule for mathematics teacher**

Name:

Address:

1. What are the factors that affect learning mathematics?
2. Nearly half student of total is absent, what is the reason behind it? Does the attendance of student influence the learning achievement?
3. In your opinion, what should be done to increase the achievement?
4. What problem do you face in the class in teaching mathematics?
5. Is there any problem in mathematics curriculum?
6. How many parents meet you to know their children's achievement?
7. How do you evaluate your children in class room activities?
8. Do Madhesi communities' students differ from other community students in learning mathematics? Why?
9. Do all students do their home work regularly in your class?

APPENDIX IV**Interview schedule for parents**

Name:

Address:

Sex: Male Female

Occupation:

1. How many children do you have?
2. How many children go to school?
3. Do you visit school for your children's achievement?
4. Does School invite you in meeting, program of any other function?
5. How much time do your children study at home?
6. Do you help in your children's learning?
7. Is there study room in your home?
8. Do you maintain favorable home environment for learning?
9. Do you agree the home environment influences in the learning?
10. What do you want your children to be? Do you maintain favorable environment for this?
11. Do you have TV or computer at home?
12. Do your children go to school regularly? If not why?