

**FACTORS AFFECTING THE GIRL'S LEARNING IN
MATHEMATICS AT SECONDARY LEVEL**

Thesis Submitted by

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DEDICATION

This thesis is dedicated to my father Mr. Ghan Shyam Adhikari, my mother Mrs. Dil Kumari Adhikari, My brother Mr. Ganesh Adhikari and Mr. Bikash Adhikari and My sister Mrs. Sunita Adhikari Devkota who love, support and encouragement to have enriched my soul and inspired me to purpose and completed this research.

DECLARATION

I hereby declare that the work presented in the this thesis entitled "**Factors Affecting the Girl's learning in mathematics at secondary level**" has been done by myself and has not been submitted elsewhere for the aware of any degree. To the best of my knowledge and belief, this dissertation contains no material previously published by any authors except due acknowledgement has been made.

Date: 2079/03/16

Moti Adhikari

RECOMMENDATION LETTER

This is to certify that Miss Moti Adhikari has completed her M.Ed thesis entitled "**Factors Affecting the Girl's Learning in Mathematics at Secondary Level**" under my supervision during the period prescribed the rules and regulations of Prithvi Narayan Campus, Pokhara Nepal. I recommend and forward her thesis to the Department of Mathematics, Faculty of Education to organize the final Viva-Voce.

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ABSTRACT

Education helps a child become a useful and responsible member of the society. It is regarded as the greatest force in the development of a nation economically, socially and culturally. In the context of school education in Nepal, most of the students fail or achieve a low score in mathematics that creates the barrier for the further study (Pokhrel, 2018).

The main concern or area of this study was "Factor Affecting the Girl's Learning in Mathematics at Secondary Level." The objectives of the study were to identify the factors that affect learning in Mathematics of girl's students, to identify the problem faced by girl students to learn mathematics and also to identify the strategies taken by the school administration for improving mathematics learning. The descriptive case study approach was adopted to conduct the study under the qualitative research design. Interview and classroom observation were used as tools for data collection. This study was conducted with the sample of five girl students, head teacher, one mathematics teacher and two parents as respondents. The researcher observed classroom and interviewed with related students, head teacher, mathematics teacher and parents. The collected information were analyzed and interpreted with the help of conceptual framework and linking it with theoretical construction.

This study found that lack of classroom management, lack of peer group learning in mathematics classroom, lack of suitable textbook, having a large number of students in mathematics classroom, lack of teaching method and materials in the class, lack of teacher's teaching technique, lack of interest of learner, lack of students home environment, lack of parent's educational status, technologies impact, teacher's behavior towards girls, menstruation problem, lack of school's policies for learning.

Also, there was not enough references book and practice book, library, class size was big so that disturb in teaching and learning process, communication between teacher to parents and students was menial and there was poor economical condition of the students, are also the factors that affects the girl's student learning in mathematics.

TABLE OF CONTENT

	Page
<i>Cover</i>	<i>i</i>
<i>Dedication</i>	<i>ii</i>
<i>Declaration</i>	<i>iii</i>
<i>Recommendation Letter</i>	<i>iv</i>
<i>Approval Letter</i>	<i>v</i>
<i>Acknowledgement</i>	<i>vi</i>
<i>Abstract</i>	<i>vii</i>
<i>Table of Content</i>	<i>ix</i>
<i>List of Table</i>	<i>xi</i>
<i>List of Abbreviation</i>	<i>xii</i>
CHAPTER I : INTRODUCTION	1
Background of the Study	1
Statement of the problems	6
Significance of the Study	7
Purpose of the study	8
Objectives of the Study	9
Definition of the related terms.	9
Delimitation of the Study	11
Scope of the Study	12
CHAPTER II : REVIEW OF RELATED LITERATURE	13
Empirical Review	13
Theoretical Review	21
Conceptual Framework	23

Research Gap	24
CHAPTER III : RESEARCH METHODOLOGY	25
Research Design	25
Population of the study	25
Sample of the Study	26
Data Collection Tools and Techniques	26
Data Collection Procedure	27
Data Analysis Procedure	28
CHAPTER IV : ANALYSIS AND INTERPRETATION OF DATA	31
Major factors affecting on mathematics learning	42
Teacher's behaviour towards Girls'	64
Teaching Strategy	67
CHAPTER V: SUMMARY, FINDINGS, CONCLUSION AND IMPLICATION	70
Summary of the Study	70
Findings	71
Conclusion	72
Implication	73
REFERENCES	75
APPENDICES	

LIST OF TABLE

Table 1: Enrollment of class-wise student of the case school	33
Table 2: Demography of Secondary Level Teacher	34
Table 3: S.L.C Result of last five years	34

LIST OF ABBREVIATION

M.Ed.	:	Master of Education
SEE	:	Secondary Education Examination
TU	:	Tribhuvan University
SLC	:	School Leaving Certificate

CHAPTER I

INTRODUCTION

Background of the Study

Mathematics is one of the importance subjects in school education which provides a platform for the development of entire mathematics education.

Mathematics was created to fulfill our basic human needs (Tamu, 2011).

Mathematics has great importance in the every field and every life. It is interpreted, explained and used in different way or situations of human life. It helps to counting objects, logical, intuition, reading and writing numerals, constructivism, analysis, formulation performing arithmetic calculations and lodgment power (Steinder, 1985).

Mathematics was born with the development of human beings. It was developed with the need of contemporary society of human beings. Also needed were the measure of size, strength distance and time, however crudely formulated they might be. It is a fundamental element in the development of science and technology. Mathematics is behavior science, also influenced by cultural rule. It is symbolized and struttred as system. The invention of symbols helped to develop math process, which utilize positional representation of numbering and operation of numbers. It is also important to have means of describing location involving both concepts which latter development into mathematics (Tall, 2008).

There are several reasons on chosen this topic for the study. The first reason for choosing this topic is beings the 30% lady study M.Ed. in mathematics in my

batch and my personal interest is that what are factor affect of females are not participating in mathematics learning.

Hence school mathematics for 21st century should focus on solving daily life problem of the society and the learners today; (Geiger, Goos & Forgasz, 2015). Mathematics is not able to deal with practical and real life problems of students (Nardi, & Steward, 2003). For many students mathematics is an abstract and dry subject. Thus an achievement in mathematics is lowers than other subjects at all school level and even in the SEE examinations. Most of the students in mathematics and they think mathematics is a difficult subject and the teachers also think the same in teaching mathematics. Therefore, the achievement of mathematics is very low and most of the students failed in mathematics. In many countries the secondary school education has become compulsory for large number of children up to the age 15-16 years.

In context of our country, girl's are not encouraged for study by their parents and society less number of girls gets chance to involve in math education comparatively (Warrington & Kiragu, 2012). There are some factors of less participation of girls in mathematics. Mathematics need much time to practice but almost girls don't get enough time to practice it. Most of the girls don't get opportunities of higher study with subjects relating to math so girls are not interested in math. I think girls may view mathematics as a male domain that is difficult to reconcile with their sex-role identity-Girls may have internalized cultural ideals about who belongs in mathematics. Most of the teacher perceives that girl's may feel embarrassed to show that they excel in mathematics (Ramtu, 2014)

In this context, the policy maker, administrator parents, teacher and students themselves must be aware about the achievements of mathematics. The low marks and the low pass percentage in SLC level students have raised questions in the mind of many concerned people about the national goals of education and objectives of teaching mathematics at secondary level (Kunwar, 2021)

Mathematics is a dynamic field that is best learned through an active process of construction in which students are empowered to explore, conjecture and reason logically (Frykholm, 1995, as cited in Dhewaju, 2007) i.e. active participation of students is essential for empowering them to construct and explore new knowledge in mathematics. The uniqueness of mathematics and the reluctance of people to get in depth knowledge of mathematics is all about (Poudel, 2005). i.e. nobody are exactly unique in nature whose perceptions, attitudes and beliefs in mathematics guide for further mathematical knowledge.

Mathematics is an important subject, which is inseparable discipline of human life because of its usefulness in each and every human activity. Mathematics has direct impact for the development of physical and social science. It is the base of scientific development of modern technology (Sharma, 2011).

Mathematics has great importance in the every field and every life. It is interpreted, explained and used in different way or situations of human life. Mathematics developed from society. The history of mathematics education reflects that the contemporary society has served today's situation in the field of mathematics. It was developed to fulfill the necessities of the society. Mathematics is developed in different societies in their own means and ways for their requirements (Best and Khan, 1999).

Mathematics is one of the importance subjects in school education which provides a platform for the development of entire mathematic education. It was created to fulfill our basic human needs (Tamu, 2011), and it is also a ways of communication by use of symbols, numbers and operations, all of us in daily life encounter such communication. Therefore it is important that students learn and understand how to prepare these number and symbols (Kane and Mertz, 2012).

Mathematics provides a set of tools for describing, analyzing and predicting the behavior of system of many kinds' conversing different aspects of the world. (Bailey, 1998). It is accounting, surveying and engineering and physical sciences to biology, economic business and many factors of everyday life. Mathematics structure is characterized by undefined terms, defined terms, axioms and rules of logic (Pandit, 1998). We saw those mathematical features were used in many aspects of human behaviors and also social function. Now a day's mathematics to becoming a burden to most of the students of school level as well as other level too but mathematics have the separate, objective and process in the academic field.

The factor, which affect the girl students of any grades in mathematics learning are changeable in time and space. So achievement itself requires further analysis after the certain interval of time. In order to suggest measures for enhancing achievement level of secondary level students in mathematics first the factors affecting it needs to be defined. There may be different reasons behind it such as physical facilities, lack of textbook, lack of teaching materials, large size of class which are school related factor as well as parent's participation, home environment, parents education, parents economic factors etc. (Mishra, 2017).

Students in secondary level have different standards of intelligence and varied ranks of performance in mathematics. On the other hand, there are students whose academic achievements are commensurate with their intelligence. There is no significant discrepancy between their ability and achievement (Pokhrel, 2018). On the other hand, there are others who have average or above average intelligence, but they continually fail to maintain normal progress in a school subject, especially mathematics (William and Orlansky, 1980).

In our Prithvi Narayan Campus, Department of Mathematics, there are 35 teachers among whom 1 is a female teacher. In our batch there were total 9 students and among them 3 were girls. According to the national population census (2011) published by the Central Bureau of Statistics (CBS), the female literacy rate is 57.4% which is low in comparison to the male literacy rate 75%. Though the female literacy rate increased from 42.8% (2001) census to 57.4% still majority of girls are deprived from education.

The reason for choosing this topic is my school level learning journey began from Syangja. My mathematics teacher, who asks the question and gives us mathematical problems most of the time boys were quickly solved but not girls. When I was in grade IX, our mathematics and optional teacher said only talented students can take optional mathematics as an additional paper. In our country gender inequality is one of the causes of low achievement of girls in mathematics learning.

There are gender differences in attitudes towards mathematics and females have more negative attitudes than that of males (Hyde, et. al, 1990) found that female students held more negative attitudes to mathematics than male students, and these differences increased gradually with age. The girls lacked confidence, perceived

mathematics as a male domain subjects and suffered from anxiety in studying mathematics (Asante, 2012). This study aims to develop a conceptual model to analysis the factors that affect the mathematical performance of girl's students.

Since poor performance in mathematics indirectly affects the academic performance of students. There is an urgent need to investigate the factors that have contributed to poor performance in mathematics in higher education.

This study aims to develop a conceptual model to analysis the factors that affect the mathematical performance of girl's students.

Statement of the problems

Mathematics is the central part of the school curriculum not only in Nepal but also in the entire world. Many factors school factors, Time variable, social variables has been identified as potentially affecting students mathematics achievement. Most of the students in schools are poor in mathematics (Acharya, 2017). Having a poor education quality and policy do not seem to contribute to haring a practical teaching approach in the field of mathematics. So that low achievement in mathematics is common problem at school level. This study was concerned with finding the affecting factor of girl's students in mathematics learning. Comparatively the girl's students take longer time than the other students for the achievement in mathematics. It is quite interesting to investigate many factors which affecting the girls students learning in mathematics. This study was mainly concerned with the factors affecting the girl's students in mathematics learning specially, the study intends to answer the following questions.

- What are the factors that affect mathematics learning of girl's students?

- What are the performance of girl's in mathematics?
- How does the school administration can minimize and remove the affecting factors?
- How do girls feel comfortable in learning mathematics? Why?

Significance of the Study

Here, I choose this issue which had really affected me during the secondary level of education in my life. Experiencing long period of learning and teaching as a mathematics students in different levels made me feel that girl's achievements in mathematics subjects is very low in comparison to boy. Thus, researcher decided the research issue topic which is "factor affecting the girl's learning in mathematics at secondary level. Here researcher going to explore the view of factor which affects the girl's learning in mathematics.

The fact is that mathematics is unavoidable for all but learning mathematics is influenced by various factors such as religion, culture, political issues and social aspects (Howard, 1991) So, researcher mainly centralize it was focused to explore the factors which affect the girl's learning and the problem faced by girl's students in school and out of school. In short, following are the significance of the study.

- It provides important information about the factors that affect the girl's students in learning mathematics.
- It provided the appropriate information about the difficulty of girls in learning mathematics.
- This study would help to improve the girl's students to learn mathematics.
- This study would help to mathematics teachers for effective teaching.

- This study would help to minimize failure rate of girl's students in mathematics.
- This study has also opened the door for the further study about the problem in mathematics leaning of girl's.
- It would help the curriculum planners, text book writer, and policy maker equally.

In addition researcher also believes that other beneficiaries of this study could include.

- School administrators: These include the head teacher, deputy teacher, parent committee and other school stakeholders. Findings of this research will provide them the good way of administering and managing schools in order to eliminate gender disparities in terms of access performance, achievement, transition and completion rates.
- Teachers: The findings will help teachers to recognize how they contribute to girl's repetition, dropout and low performance so as to enhance their teaching methods.
- Parents: The findings of this study will help to widen the awareness of parents and society on factors affecting female's education. And it will also help to differentiate problems or hindrances for female's participation in secondary level.

Purpose of the study

The purpose of this study was to investigate the factors that affect girl's students to learn mathematics at secondary level in Kaski district. The study also aimed at

determining the extent to which perceptions and attitudes influence low learning of girls in mathematics.

Objectives of the Study

The main objectives of this study were as follows.

- To identify the factors that affect learning in mathematics of girl's students.
- To identify the problem faced by girl students to learn mathematics.
- To identify the strategies taken by the school administration in improving mathematics learning.

Definition of the related terms.

Some terms which are especially related to this research which is defined as follows?

Public schools that are established or founded by the government of Nepal.

School related factors: school related factors are associated with school environment, effective classroom teaching, teacher's behavior, peers behaviors etc.

Out of school related factors: Out of the school related factors are associated with the family background, interest on the learner to word mathematic etc.

Students: Those pupils who studying grade IX and X.

Home Environment: Home environment is such components which describes about the reading room, parents and other education relation related behaviors. It is crucial components which is directly associated with learning of students.

Interest of learner: Students interest in a topic holds so much power factoring for student interest works well with instructional planning based on readiness and learning profiles.

Textbook: A textbook is manual of instruction in any branch of study. Text book are produce according to the demands of educational institutional school books are textbooks and other books used in school.

School facilities: There are the things that facilities learning which include buildings, particularly enough classroom, toilets, teaching aids like text books, teaching materials visual aids, maps and other teaching materials which are applicable in the teaching process.

Factors: A factor is any of the things that cause or influence a situation. In this study the factors to consider are cultural factors, community factors, economic factors and school factors.

School Factors: These are school related factors that push negatively girls out school inhibit their progression through the educational system and impact on their performance. They include learning environment, teachers and male student's attitudes towards female's students, teaching practices, inadequate gender-sensitive school facilities, lack of role model for girls, curricula and textbooks, sexual harassment distance to school, etc.

Community Factors: These are community related factors that can affect girls in their education process. They include inadequate public support, limitation of woman in development activities, political instability HIV/Aids and others.

Cultural Factors: They are customs, beliefs and practices which influence the decision to enroll girls in school. These factors include early marriage, teenage pregnancy parental level of education and others.

Economic Factors: Economic factors are the said to be the factors that influence on personal life on students learning. They are measured by combination variables; parent's poverty, parent level of education, lack of school fees and learning materials, engagement in house hold activities, etc.

- Students- In this study student refers to those who are enrolled in secondary levels in academic year 2078.
- Class Size- Number of students in mathematics class in considered in this study.
- Girl's- In this study girl's is defined as who are studying in mathematics at secondary level.

Delimitation of the Study

Delimitation of the study concerns with the limitations of time, financial resources and materials. This study has been focusing on the exploring factor which affects the girl's achievement in the mathematics.

Thus, this study has some limitation which I pointed below.

- This study was limited to Kaski district.
- This study is limited to the public secondary school appearing in 2078 B.S.
- This study is conducted only for the subject of mathematics.
- The sample of this study included the students of secondary level
- The study was based on qualitative analysis.

- This study was based on the response of head teacher, mathematics teacher, students and their parents.
- This study is carried out within the certain particular area of Kaski district and so its findings cannot be more generalized.

Scope of the Study

This study was focused on factors affecting the girl's students in learning mathematics at secondary level which were conceptualized as community, cultural economic, time variable, home environment and school factors and the level of girls who learning in mathematics which was conceptualized as girls enrolment, promotion, performance, dropout, repetition and transition rates. This study will therefore examine the gender factors like role model, cultural beliefs and stereo types with affect girl's learning towards mathematics.

CHAPTER II

REVIEW OF RELATED LITERATURE

Chapter Overview

This chapter presents the literature reviewed by the study, it empirical review, theoretical review and conceptual framework. The main purpose of review of related literature is to develop some expertise in one's area to see what new contributions can be made and to receive some ideas for developing a research design (Yadav, 2021)

The main purpose of review of related literature is to find out what works have been done in the area of the research problem under study and what has not been in the field of the research study being under taken. This chapter discusses major factors affecting the girl's learning in mathematics at secondary level such as the school factors home environment factors, social factors and individual factors. Also teaching strategies and teaching related factors affecting the low learning in mathematics among the girl's student in secondary school have been also been reviewed in this chapter.

Empirical Review

I had collected some books, journal, thesis, articles which are related to difficulty in learning mathematics. Some related literature are reviewed as follows.

Gaha (2020): Made a research entitled "A study in factors affecting in learning mathematics." With the objective to study the factor that affect in learning mathematics of Magar students. The tools for the study were administrated fallows:

- In depth interview

- Written document
- Participatory observation

In grade 6, 7, 8 only four students. And conclude the following result:

- The language plays a vital role in mathematics learning. Due the lack of proper understanding of language that's creates the difficulty in mathematics learning.
- The culture also plays a vital role in mathematics learning. Due to unmatched culture at home and school, that arise the difficulty in mathematics learning.

Culture, society, students' interest are also the major factor that affect for students in learning mathematics.

Pokhrel (2019) had studied entitled, "Mathematics achievement in school leaving certificate examination between public and private school student at Kaski district." The main conclusion of this study was to mean achievement scores and correlation of private school student in compulsory and optional mathematics was greater than public school student in Kaski district in S.L.C. examination. He concluded that the mathematics achievement of private school is better than public school. And also, he concluded the important factors related to student's school achievement in mathematics are classroom behavior (time spend in learning, student attention, method of teaching Teachers background (trained, experience ability) of private & public-school student's characteristics.

Mishra (2017) has studied entitled "factors affecting achievement in mathematics at secondary level" with the objectives to identify the factors that affect of the achievement in mathematics and to analyze the strategies taken by school to promote mathematics achievement. This case study was qualitative in nature and

conducted with the sample of one school from public school in Saptari district. The finding of the study shows that following:

- That school has enough rooms, desks, bench and class size was big.
- Mathematics teachers were having high academic qualification but the teaching style was poor and old.
- The single teacher taught different subjects and they were unable to prepare less plan.
- There was poor economic environment.

Poudel (2017) studied on 'detrimental factors for poor performance in mathematics with the objectives to identify detrimental factors respectable for poor performance in mathematics and to find the strategies by school mathematics to improve achievement in mathematics. It was a survey type research in six school of Chitwan district. This study also focused on inside school factors and out of schools factors which are responsible for poor performance. The tools for study were administered to the sample of 200 students of Chitwan district and mean, standard deviation were used to applied conclude in comparison of school related factors act of school related factors was more responsible for poor performance in mathematics.

Giri (2016), did a research on thesis topic "Factor affecting girl's participation at higher secondary level mathematics in Doti district" with three objectives level of girls participation, cause of low participation and analyze the most significance factor of girl's in mathematics at university level show that the participation girl's students in mathematics in very low. Society as a whole believes that female is mathematically less capable than male. This research shows that there are mainly six factors were identified as influential variables for the participation of girls in mathematics. They

are home environment, school environment, teaching learning process, attitude towards mathematics, time variable and social variable; among them the researcher concluded that the social variable is most significance factor of girl's participation in mathematics.

Rauat (2015), Carried out a research entitled "participation of girls at higher secondary level mathematics in Surkhet district" which aimed to explore the factors of low participation of girls in learning mathematics at higher secondary level. This is the qualitative research based on case. Study Altogether & girls students reading mathematics were sleeted as participants and questionnaire, interview and objection checklist were used as data collection tool both primary and secondary data were used for the study and finding shows that there was low participation of girls in mathematics at higher secondary level due to the factor teacher's altitude towards participation of girls, parent attitude girls interest early marriage and social impact, parents economic status was also the cause of girls low participation in learning mathematics.

Bhattarai (2015), studied on topic "causes of low achievement of girls in mathematics at secondary level" and conclude that

- Effective classroom teaching such as pleasing environment, less use of instructional material appropriateness to teaching, participation to discussion, activity have strongly positive effect of mathematics achievement of students. It concludes that the effective classroom teaching is very essential for increasing the mathematics achievement of girl students, So, It should improve.

- Peer's behavior i.e. peers help in learning mathematics; discussion with peers for their mathematical problem had strongly positive effect on mathematics of girl students.

Liping (2014), Carried out a research entitled "Socio-cultural factors that influence girl's participation in mathematics in secondary school in the oshana education region" which aimed to find out how socio-cultural factor influence girl's participation in mathematics in the oshana education region. This is the mixed research design that employed both quantities and qualities approach together for collecting data. All 216 girl studying at grade II and 12 classes from eight secondary school in the oshana education region. The required data were collected using open ended and close ended question. The finding shows that the perceptions of girls were influenced by cultural beliefs, child rearing practices and gender-role stereotypes in the family. This study showed that the additional barriers to girl's participation and learning in mathematics included lack of support for the parent's teacher and peers as well as the masculine belief that mathematics is difficult. Further, it suggests that girls should be empowered and prepared physically and mentally in order to encourage them to study mathematics.

Sapkota (2014), has identified some significant factors about learning math girls. This study focuses on the factor effecting learning mathematics of girls." This was a survey type study that attempts to analyze the factors affecting learning mathematics. This study was conducted among ten public school which were select randomly from all public schools of Kailali district includes rural and Urban areas. One set of opinion scale was prepared and distributed to the students to find out the effect of teaching learning process, home environment, social variable, time variable and school environment in learning mathematics of girl's students. Instructed

interviews were taken with girl's students, parents and mathematics teacher from respective. Sample school concerning these factors. Related literature, theories mathematical tool which are related this study have been used to interpret. Reflection on the study over the analyzed information χ^2 value was used to interpret the result as well as discipline analyses was also done with information obtained from interview.

Kandel, (2010): Made research entitled "factors affecting in learning mathematics: A case study of pade students in Kaski district" in a sample of all students at grade 7, 8 & 9 and only five students were selected purposively for the study. From this research, the standard of the pade students described in course of promoting to higher grades and also find the marks obtained in mathematics by the selected students to be affected by their age factor, the environment they got at home and their growing responsibility.

From the above discussion of the related literature achievement of girls is low and there are So many factors which affect achievement of students in mathematics school environment, home environment. Social belief, social tradition, cost of education, households work load, problem of health, early marriage attitude towards mathematics, time variable all these factor affected the girls on participation in mathematics teaching and learning at secondary level.

Janwali (2007) studied on topic "Causes the affect mathematics achievement of girls students determine the correlation. The researcher adopted the survey method in this study, The sample of the study was determined by convenience sampling from Rupandehi district. Researcher selected 25 sample students from different school of district situated in rural and urban area. In this study one set of questionnaire was developed and three point likert scale for the convinces of the respondent were

developed for the collection of need information which was used for students. The conclusion of this research work was effective classroom teaching such a planning environment less use of instructional materials, appropriateness to teaching participation on discussion activity have strongly positive effect on mathematics achievements of girl students. It concludes that the effective classroom teaching is very essential for increasing the mathematics achievement of girl's students so it should be improved. The teacher behavior and family background are also have positive effect so that the teacher and parents have equally responsible for the girl's students learning activities in school and create good environment at home for learning and improve the mathematics achievement of girl's students.

Dhakal (2006) did a research in the factor affecting the girls students attitude towards selecting optional mathematics at secondary level "100 students were selected from Syangja district who had offered the optional mathematics course in secondary level. This study concludes that eight variables, which are teachers behavior prior achievement level and job taking mission, social influences, peer influences, self-confidence and girl's interest come out true the context of Nepal influencing the girl to make positive attitude mathematic learning.

Neupane (2006) conducted a research on "effect of socio -economic status on mathematic achievement". For this study researcher developed the achievement test paper, parent's questionnaire form and 84 sample students of grade III from V government school's of Lamjung district. From this research he concluded that the score obtained by students in mathematics founded significantly correlated with parents education, occupation, family size and structure of family size and structure of family were founded negatively correlated with mathematics achievement.

Ghimire (1997) did his research entitled "A study on factors affecting teaching learning mathematics at secondary school" with the objective to study the factors affecting learning of schools in term of the following; school environment, family background, motivational factors, physical facilities interest of the learners, instructional materials. The tools for the study were administrated to the sample of go students and t-test applied to conclude the following results.

- Environment of the school in both rural and urban areas affecting equally but the, boys are more affected then girls.
- Home environment affects more to the subjects of rural areas and girls were affected more than boys.
- The students of urban areas were more interested in the study of mathematics and the girls paid more attention for the study.

CERID (1996), did research on the topic "The Girls Education in Nepal". It showing parents reasons for their daughters not allowing school by gender. Girl's students in secondary level are normally drop out, not sent to the school because of social discrimination, poor economic condition and child labour requirements in the family, Normally, girl's are used for household requirement such as fetching water, collecting fuel wood, cooking, washing and cleaning, child care, land preparation, planting and harvesting. The most drop outs were for agricultural families. It was observed there was a strange inverse relationship between household income and early school leaving and that need to work was the primary cause of dropping out from school. There was also a strong inverse relationship between family size and early withdrawals from school.

Theoretical Review

In the section, the researcher will introduce the theoretical discussion which is relevant for the interpretation of the findings of the study. There are various learning theories related to children's learning and development. Some of the them are classical conditioning, operant conditioning, trial and error, social learning, social development, constructivism, cognitive learning, socio cultural, multiple, intelligence and so on.

From a contemporary constructivist perspective of mathematics education, personal experience and previously learned knowledge and skills are encouraged as components for understanding (Rana, 2021).

Constructivism Theory

Basically, constructivism views that knowledge is not fixed object, it is constructed by an individual through his/her own experience (Acharya, 2017; as cited in Khanal, 2017). This theory of learning acknowledges that individual is active agents, they engage in their own knowledge construction by integrating new information into a meaningful way. According to Acharya (2017) constructivist argue that it is impractical for teachers to make all the current decisions and dump the information to students without cling students in the decision process and accessing students' abilities to construct knowledge. The constructivist approach to mathematics learning is argued to lead understanding of mathematics when applied to the physical, social and cultural experiences and developmental contexts of the learner whereas traditional mathematics' use of highly structured worksheets, and formulaic solutions to word-problems has been criticized for its poor survival of understanding and application beyond the classroom. Conditions of classroom that foster a constructivist

approach involve the use of realistic problems and conditions and the use of multiple perspectives, active engagement, group participation, frequent interaction and feedback, contexts that connect learning to real world, and integration of assessment into instruction (Pandit, 2015). Constructivism transforms the students from a passive receipting of information to active participation in the learning process (Poudel, 2017).

Walberg Model Theory

Walberg Model (1981) has defined learning as a function personal variables and instructional treatment. Learning and performance of learned behaviors are influenced by several factors. Walberg describes a theory of educational productivity requiring optimization model, which mentions nine factors to influence achievement of cognitive and effective outcomes (Pokhrel, 2018). This model includes a paradigm connecting aptitude (ability or prior achievement, motivation or self-concept and age), instruction (quantity of instruction and quality of the instruction) and environment (home environment, the classroom or school environment, the peer group environment and the mass media) as inputs to learning (effective, behavioral and cognitive) (Welberg, 1981 as cited in Dhakal, 2019). Walberg's theory requires optimization of nine factors to increase student's achievement of cognitive and affective outcomes.

Conceptual Framework

A Conceptual Framework is an analytical tool with several variations and contests. It is used to make conceptual distinctions and organize ideas and it gives direction to the researcher for to complete their work systematically, analytically and comparatively. This Conceptual framework is made to find out the factors which affect the learning of girl's students in mathematics at secondary school in Kaski district shown by the following way.

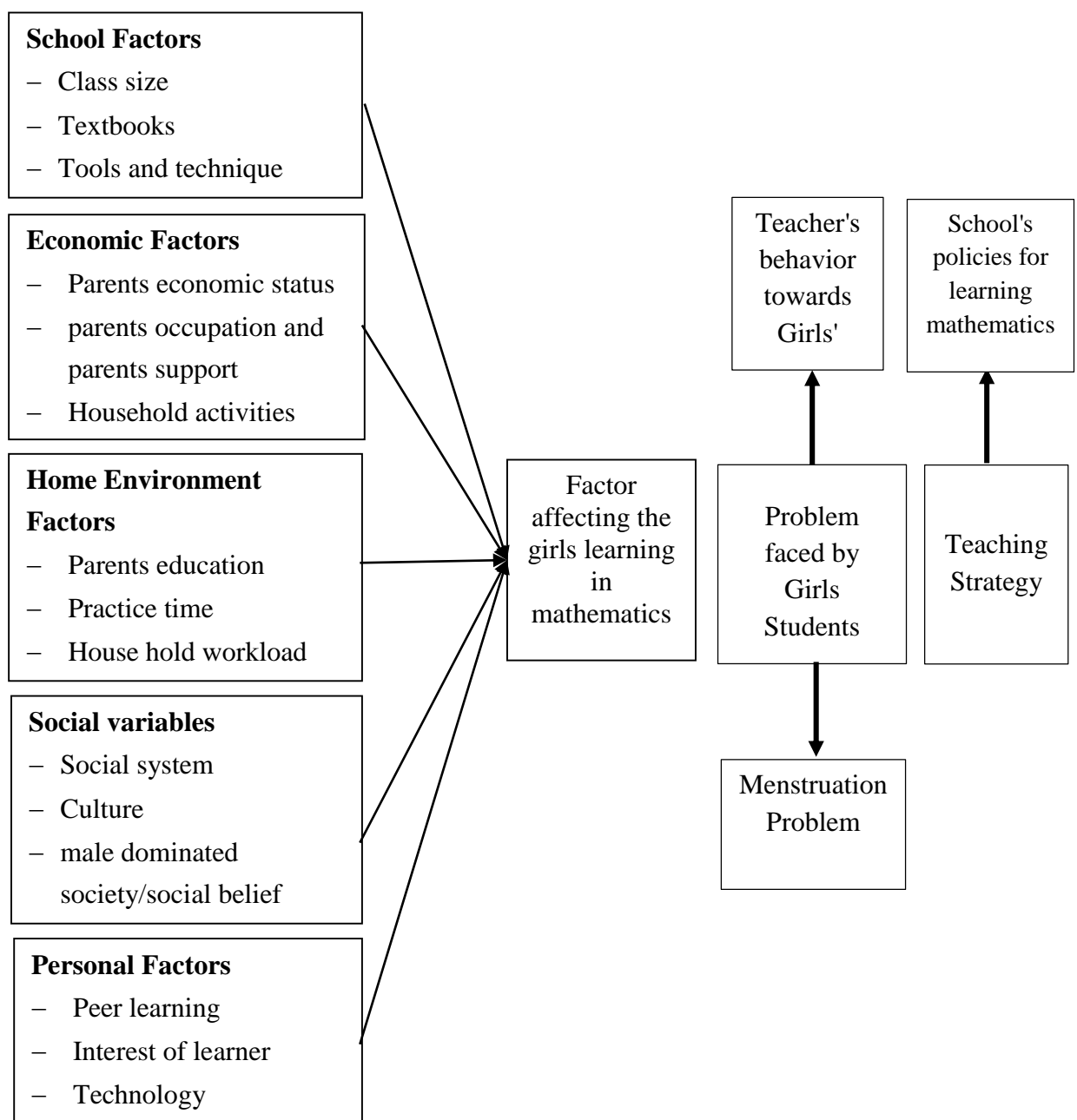


Figure 2.1: *Conceptual Framework*

Source: Walberg, 1981

Research Gap

Above literature mainly focused on the causes of failure and low rate of achievement. In the past decades it was practiced researching about the causes of failure of students in mathematics. To improve the learning not only finding causes of failure and low achievement but here needs to find affecting factors of learning mathematics. So researcher was interested to find the affecting factors of learning. Still the researcher is unable to address the factors affecting mathematics at secondary level. The previous researcher had addressed comparison of public schools and private school's marks result. By comparing that the researcher have shown better result of private school in the comparison of public schools. It was found that there is gap between causes of failure and low learning. Thus, to fulfill this gap, this research had been conducted.

All the researcher were done in different field. But there is no such researcher about Determinant factors affecting low achievement in mathematics at secondary level from different government school of Kaski district. This study tried to fulfill the gap in which there is lack of researcher in determinant factors affecting the girls' learning in mathematics.

CHAPTER III

RESEARCH METHODOLOGY

The research methodology it has chosen is qualitative. Qualitative technique is a form of inquiry that explores case study in their natural setting and cases multi-method to interpret, understand explain and bring meaning for them (Njie & Asimiran, 2014). Research explains and also a strategies plan of the project that sets out the broad structure of the research. The chapter therefore describes the procedures the study used in the collection and analysis of data. The section covers the research design, population of the study, sample of the study, tool of the study, data collection procedures, data analysis procedure etc.

Research Design

As mentioned by Reswell (2014), research designs as the plan or proposal to conduct research, involves the intersection of philosophy, strategies of inquiry and specific methods" (p. 5). The learning in mathematics, which is directly or indirectly related to the school and out of school factors. The study is designed to determine the factors affecting learning of mathematics in public schools. The design of research is case study with qualitative approach as well as in descriptive nature.

Population of the study

Every research needs the population has the crucial role. The population of the study was consisting of secondary level girl's students in academic year 2078 B.S. with public schools in Kaski district.

Sample of the Study

For participants, I had selected Shree Pardi Secondary School from Kaski district using purposive sampling technique (based on my convenience). From there I had taken one public school and five girl students, one head-teacher, one mathematics teacher and two parents as respondent according to convenience of researchers.

Data Collection Tools and Techniques

There are various methods by which the data can be collected. For the data collection researcher can use interview, observation etc. The interview guide lines were used to talk to teacher, parents, head teacher and students in group. Tools were prepared in both English and Nepali language so that the respondents could understand what they are supposed to share.

The study intended to find the affecting factors behind the mathematics learning in government's school in secondary graded girl's students. For this study I used the following tools to collect the data.

Interview Schedule

The interview is one of the major sources of data collection and it is also one of the most difficult ones to get right. It is done to get the real and actual duty from the research area. There are many types of interview; especially direct interview was conducted with girls and gave in depth interview in this study. In this technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme or situation.

The interview aimed at finding out the factors that affects learning performance of mathematics at secondary level. It is administered to know head-teacher, mathematics teachers, parents and students view about the factors affect learning mathematics.

Observation Form

The physical facilities like classroom, play ground toilets, drinking water, compounding, school area, classroom size, gardens, furniture, school building, roads etc were observed on the field. The classroom observation form prepared to observe classroom management, classroom teaching learning process, teaching techniques and methodology, time on task, teacher's preparation and delivering, acquisition of learning used of materials, closures of lesson and current evaluation of students during teaching learning activities (O'Leary, 2013).

I used a set of observation form to observe classroom activities of respondents. The observation included classroom interaction, classroom management, teaching method, use of materials students and teacher behavior etc. Researcher observed and noted the traits, behavior and conduct of the girls as they were learning mathematics in reference to their gender differences. In addition, the researcher observed the girl's discussion in group work on math activities in order to find out which gender is cooperative like to work independently, like group work, lead others in group and is competitive in the conversation were also observed while doing classroom observation.

Data Collection Procedure

The data were collected through above mentioned tools from different steps. The permission was taken from the administration of the selected school. After then, I

informed about the nature and purpose of my study. Then I collected data and information by using interview schedule and classroom observation form. The school record was studied S.E.E result of last four years of these school physical facilities, students teacher profile and other relevant documents and permission was taken before conducting the interview. Likewise, also the teachers approached informally during their leisure time. The interviews of selected students, teachers, parents were taken within eight days. Their interview was record. All replied noted during the course of interview most of the socio-economic information education status of parents and formation about the home environment, parents was retrieved from the interviews from parents. The data from interviewed in the recorder transcribed in Nepali notebook. Then, that translated in English in computer.

I had observed the responds class five days based on observation from. I had observed the behavior and activities in mathematics classroom. On the observation note the participant of the students, attendance of the students, their homework, assignment and their performance in the subject matter their difficult in learning use of teaching materials, class-room management and the whole environment of the classroom were, carefully noted.

Data Analysis Procedure

This study was analyzed the data in two sections as discussed in the next section: first, with regards to the interview questions related to students, mathematics teacher, head teacher and parents and second, with regards to the classroom observation form related to school environment and classroom activities of respondents. The collected data in qualitative research is not of structured form and it is time the research has to do a lot in making workable structure of the collected

information so as to make the meaning or theory. Data collected was analyzed using descriptive writing and later interpreted to make deeper understand and meaningful of the data collected for research discussion and recommendation of the finding (Sutton & Austin, 2015). The various themes were generated and using triangulation of field, literature and experience interrelation and analysis of data were done.

Quality Standards

Developing standards of quality Lincoln and Guba's classic work shed light on how to assess truth in a qualitative report offered four alternate tests of quality that reflect the assumptions of the qualitative paradigm (Khanal, 2019).

Conformability: Conformability refers to the quality of the results produced by an inquiry in terms of how well they are supported by informants who are involved in the study and by events that are independent of the inquiry.

Credibility: Credibility refers to accuracy Description must be plausible and recognized by participants credibility is enhanced by, prolonged time in the field repeatedly observing and interacting with participants, using different data sources, methods, data type, conducting member checks, involving other investigators in the study.

Transferability: Transferability refers to the generalizability of the study findings to other settings, populations, and contexts, report must provide sufficient detail so that readers can assess this, Lack of transferability is viewed as a weakness of qualitative methods

Dependability: Dependability refers to the stability and track ability of

the changes in data over time and conditions; want to determine the extent to which another researcher with similar training and rapport with participants would make the same observations, this is determined by an audit trail, involves auditing research process, documenting all the raw data generated, and assessing method of data analysis.

Ethical Consideration

In the research work, a number of ethical issues was considered to make data collection more standardization and conformity in writing the report of the study. I had consider the some ethical issues such as; after the permission from the school principals and institutions where the survey was going to be conducted, the researcher had inform the participant if there was necessary for recording filming or photographs, the researcher was not use the name of the institution without its permission, and also I had used comfortable language in the data collection process that is easily understandable to the participants and report writing.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

This Chapter deals with presentation analysis and interpretation of the data based on the objectives and interview that guided this study. This chapter shows these for the factors that affect learning in mathematics of girl's students, the problem faced by girl students to learn mathematics, the strategies taken by the school administration in improving girl's mathematics learning.

I observed the classes regularly for five days. I visited the school, parents home and students meet at school. Researcher takes the responses of the respondent during the face to face interview were carefully noted. I had observed mathematics class with math teacher during teaching learning activities. Then, the classroom observation note was prepared on the basis of the class observation. Every activities and behaviors of the students were carefully observed and noted. The responses of the respondents during faced to face interview were carefully noted. First of all, I collected the data using data collection tools then the collected information categorized according to the similarity responses of the respondent. The base of this study was focused on parents related factors, school related factors, and social variable and personal related factors. Direct observation was used by classroom behavior was carefully observed and noted of the given result.

The obtained data were analyzed and interpreted under the following heading:

- Introduction of participant respondents
- Classroom observation

- Factor affecting the girl's learning in mathematics
 - a) School related factors
 - b) Economic factors
 - c) Personal factors
 - d) Home environment factor
 - e) social variable
- Teacher's behavior towards girls
- Teaching Strategy

Sample of School

Under this study, the selected one school is from Kaski district. The context, location and state of the each sample school have been discussed, here in the following section.

Introduction of sample school

Kaski district is in province No. 4 in the western part of Nepal. The schools lie in the middle in Kaski district. Shree Pardi Secondary School is one of the oldest school of Kaski districts. It was established as primary school in 2019 B.S and 2063 B.S as a Secondary school. The school was appeared in SLC since 2063 B.S there are three building, six toilet room 27 Classroom, two drinking water with four taps. School is almost compounded with brick and stone.

There are different castes living in Bhirgaun around the school such as Brahmin, Chhetri, Tamang, Gurung, magar, Dalit etc. The school mainly deposited from lower and middle class family back ground.

Enrollment of class-wise student of the sample school

The following table represents the enrollment of student in case school Shree Pardi secondary school.

Table 1: Enrollment of class-wise student of the case school

Class	Boys	Girls	Total	Girls %
1	1	17	27	62.90
2	9	9	18	50.00
3	11	17	28	60.70
4	16	19	35	54.28
5	15	24	39	61.50
6	16	26	42	60.90
7	22	18	40	45.00
8	32	36	68	52.90
9	19	44	63	69.84
10	17	37	54	68.50
11	18	29	47	61.70
12	13	5	18	27.70
Total	207	294	501	

Source: School documents

The result in table 1 shows that the total number of students are 501 were 294 girl's and 207 boys. From this it is clear there are more girls than boys. The highest number of students is class nine in this school. There are 19 boys and 44 girls. The lowest numbers of student in this school are in class twelve. There are 18 students in this class.

Table 2: Demography of Secondary Level Teacher

S.N	Name of Teacher	Posts	Qualification	Teaching Subject	Remarks
1	Bam Dev Poudel	Head	M.Ed	English	Permanent
2	Dol Kumari Poudel	Voice	M.Ed	Nepali	Permanent
3	Govinda Subedi	Teacher	M.B.S	Management	Temporary
4	Pabitra Baral	Teacher	M.B.S	Management	Permanent
5	Rom Harsan Poudel	Teacher	M.Ed	math	Permanent
6	Govinda Prasad Sapkota	Teacher	M.Ed	English	Temporary
7	Chandra Rana	Teacher	B.Ed	Social	Temporary
8	Bhaba Sagar Baral	Teacher	M.Sc	Science	Permanent
9	Bishnu Prasad Baral	Teacher	M.Ed	Math	Permanent
10	Sishir Khanal	Teacher	B.Ed	Social	Permanent
11	Bikram Ranabhat	Teacher	B.A	English	Permanent

Table 3: S.L.C Result of last five years

Year	Total no. of Student Appeared in SEE	Pass Student	Pass %	Total No. of Girls Appeared in SEE	Pass Girl Student	Pass %
2074	41	41	100%	23	23	100%
2075	37	37	100%	22	22	100%
2076	46	46	100%	27	27	100%
2077	40	40	100%	27	27	100%

Above table 3 shows that there is large number of girl is appearing in SEE examination but only few have been passed by good position. The SEE ledger of the school shows that most of the students have been low number in mathematics.

Learning Environment of School

In the school environment students need to feel, secure and positive about the school, teachers need to feel valued and can be professionally enriched by their teaching. All the activities conducted in the school, lies within the school environment for examples. Playing with their friends, studying, respect to the teacher, obeying the rules and regulation conducted by school.

Active participation of students in all activities by school play vital role in the life of students. So, students should obey the rules and regulation to build up their career. School is compounded with beautiful gate area. All the teacher and students should enter the school on timely manner in uniform otherwise they should give clarification of begin late with the at school's administration, students are obedient, discipline and they respect the teachers. But some students want to go out of school rules and regulation.

This school is near to the airport area so there is some noise from outside the school. In the school, there is a computer class, library and storeroom. In the school there is a sufficient drinking water supply, materials, magazine and toilet. School conducts different types of physical and mental extra musical activities that help to pupil up that career.

Introduction of Participant Students

Student A:

The respondent is a 17 years old girl student, she is class 9 students. She admitted in this school in class 8. It takes 30 minutes to reach in school from her home. Her main aim in life was to be a teacher. Her interested subject is science. Her parents are educated. She attends school regularly. Her family economic condition is

good. Her performance in mathematics is average. Her parents provided her whatever she needs in study and encouraged as well.

Student B:

The respondent is a 16 years old girl student. She is class 9 students. She lives in Garipatan-17, Pokhara, Nepal subject is her favorite subject. Her parents are uneducated, her family economic status is poor. She helps her mother and father in household works. Her performance in mathematics is poor. She involved household activities and managed time for study. She says household work and that culture effect on her study.

Student C:

The respondent is a 15 years old girl's students. She is class 10 students. She has been study in this school since grade 6. It takes 15 min to reach in school from the home. There are 6 members in her house. Her main aim in life was to be a teacher. Her interested subjects are math, social. She takes mathematics as a hard subject. Condition is average. She says tearing environment, teachers behavior, household work, festival and culture effect on her study.

Student D:

The respondent is a 16 years old girl student. She is class 10 students. She attends school regularly. She was known as a disciplined girl in the school. Her interested subject is account and her aim of life is to be a Nurse. Her parents are educated and engaged in foreign. She has good family environment to study. Her family economic condition is average. Her family encourages her to study.

Student E:

The respondent is a 15 years old girl student. She is a class 9 student. She has been studying in this school since grade 7. There 7 members in her family. Her family

believes in Hindu religion. Her interested subject is English and her aim of life is to be a police. She said that teacher ask the questions and reacted the boys and girls in equal in her view, teacher does not behave differently boys and girls. She says mobile, TV, family background, household work, effect on her study.

Introduction of head teacher

The respondent is 48 years old male teacher. He lives in Pokhara 17 birauta. He's qualification is M.A in English. M.A in political science, L.L.B and B.Ed. It has been seven months since he became the headmaster of this school. He says he doesn't know much about the school and will try to come up with a new school reform strategy next year. He says that mathematics is one of his favorite subjects. He say's specially home environment factors effect on girl's students for learning.

Introduction of math teacher:

The respondent is a 49 years old male teacher. He lives in Pokhara Metropolitan City 13. He's qualification is M.Sc. "I started teaching in 2048, "he says. His favorite subjects are science and math. He says it is very difficult to teach mathematics students do not try to understand. He says family background, parents supports, learner interest, household work effect on girls learning in mathematics.

Introduction of parents bolt

Parent 1: The respondent is a 41 years old. He lives in Pokhara 16 Lamachaur. He's qualification S.L.C. He says that despite his desire to study he could not study due to his family's financial situation. He is involved in agriculture and is proud of his achievements. He says that he has studied hard for his son and daughter because he has not been able to study. Reading is very important nowadays. He says

parent's financial condition, parent's education, school environment, etc. are effect on girl's study.

Parent 2: The respondent is a 35 year's old female. She lives in Pokhara 17 Birauta. She has studied only 5 classes. She has 5 members in her family. Her husband is from Gulf Countries. She sits outsides her home and teaches her children. She says there is a lot of problem in the house and I have read my children with sorrow. She says reading is important nowadays.

Classroom Observation

Among them five class observation record is presented in the following episode.

Episode 1

It was the first class observation in class nine, the teacher went into the classroom along with me. All the students stood up and said good morning. Then the teacher told them to sit down there are 60 students in the class, among them 18 boys and 32 girls. There were 2 girls students absent in the class. The teacher started to teach geometry of topic quadrilateral. Some students don't have geometric instruments. Teacher wrote down a problem on the blackboard and started to solve each step and teacher asked students whether they understood or not. Some of them answered that they can solve the problem. Mainly the students on the first and second bench were active where most of girls were passive. Again, the teacher wrote another problem from the textbook on the white board and started to solve the problem explaining step by step. Teacher ask the question to student about the related question and also made them doing that classwork. Teacher wrote a problem in the board and asked them whether they could do or not. At least teacher solves the problem in the blackboard. Then teacher told them to do the exercise at home.

In this episode, I found that most of girls were present in the classroom. The girl's student were not so active participate in class. The teaching method was based on lecture and practice oriented. The teacher behaved commonly to all the students. Teacher did not focus the girls. Specially girls were passive in mathematics class.

Episode 2

It was the second class observation in class nine. There were 44 students in the class. There are 30 girls are present and 5 girls were absent. The class was well managed. In this class, most of the students brought geometric instrument. The teacher checked the homework few number of students. Again, in this class teacher started to teach the topic geometry of quadrilateral. Teacher started the class connecting with the previous lesson, teacher wrote a problem on the blackboard and solves step by step with the help of geometric instrument and also explaining. Teacher provide another kind of problem for solves in the classroom and they cannot solve everyone. Finally, teacher solved the problem tool meaningfully. At least teacher told them to do relative exercise at home.

In this episode, I found that teacher started class after checking homework, teacher did not revise that problem which was not solved students. Teacher used lecture and practice method but taught only text book's exercise.

Episode 3

It was the third class observation in class nine. The class was too big and students were tightly sitting. There were almost 63 students in the classroom. The classroom was very noisy. Most of students were busy in making gossip, front line students were only serious in their study. Teacher gave few number of questions to solve and it was not sufficient to practice the taught lessons. The classroom activities was not provided to students. Also teacher weren't caring their homework.

In this episode, I found that teacher started directly the exercise and started solving teacher was not democratic teacher. Teacher was roughly presented in the classroom. But sometimes teacher made crack jokes. Teacher was old traditional teacher in his teaching method.

Episode 4

It was the fourth class observation in class ten, the teacher had entered in class with a text book and marker only. Teacher wrote the topic on the white board and started to teach and the teacher didn't review previous lesson. Students couldn't raise their hands to ask any question's the teacher. In addition, teacher did not try to understand them properly whether they comprehend the lesson or not. Teacher even did not go up to the back benches. One of the students ask the question teacher didn't care much her but the teacher told her to see the text book and find herself. The teacher said the student to do remaining exercise as the homework assignment and teacher said the class was over.

The above response shows that the class room is teacher dominated and students'-oriented class was totally deductive. The co-operative between teacher and student could not be established. Social constructivism theory emphasis on the teacher should help the learner to get to him or her own understanding off the content, teacher

should previous guidelines and creates the environment for the learner to arrive at his or her own conclusions. But incase school it could not found. Thus, it is a concluded that there is known proper interaction between teacher and students. The interaction in mathematics class room teacher and students may be whole class presentation and practicing problem solving investigation or projects etc., any of these approaches couldn't be seen in the observed class room. Thus, obviously that is one factor creating the difficulties to achieve the desired expectation or achievements of mathematics from the mathematics class room.

Episode 5

It was the fifth class observation in the class ten, the mathematics teacher entered into the classroom with the daily using and other limited teaching materials which were related to the topics. Teacher left the teaching materials in front of the student's desk and reviewed the previous lesson. Teacher wrote the topic and related formula. Then teacher let the students to solve the related problem. Then teacher checked student's copies and guided to their mistakes. Finally teacher summarized the topic and gave homework.

From this observation, it is seen that trained teachers were also not implementing their skills in the real classroom appropriately.

Overall, from the above classroom observation and case respondents it is found that, all the teachers were found to have in favor of supervision of the classroom teaching, however their supervision was limited to know whether the teachers were in classroom or not and course would be completed in time or not. And also, it was found that the school supervisors were used to come in their school for sometimes only and especially talked to the head teacher but they did not observe the classes regularly. supervision is an essential part of classroom teaching that aware and

gives feedback to the teachers for transfer of training in classroom teaching. The head teacher, resource person and the school supervisor are especially responsible for supervising the class.

Major factors affecting on mathematics learning

This section presents a review of the factors which have been known to affect the learning performance of the girl's students. This include the school related factors, economic factors, home environment factors, social variables and personal factors.

School related factors

School related factors are the important Components which is the important role to decide the future position of the students. The teaching activities and extracurricular activities conducted in the school come within the school environment. There should be rule and regulation followed by teacher and student in the school. Class size, curricula and textbooks tools and techniques, social policy for learning mathematics that directly affect the girl's student learning on mathematics have been taken as school related factors.

In this regard Bizimana (2011), these are school related factors that push negatively girls at school, inhibit their progression through the educational system and impact in their performance. They include learning environment, teachers and male students; teaching practices, in adequate gender, sensitive school facilities, back of role model for girls, curricula and textbooks, sexual harassment, distance to school etc.

Class Size

Class Size refers to the numbers of enrolled students in a classroom. The term may also extend to the number of students participating in learning experiences that may not take place in traditional classroom. It is the important components. In foreign developed countries has adopted the small class size. But in Nepalese context it is hard to apply. Researcher willing reaches to optimum level to gather the real information from head teacher, math teacher, parents and Secondary level girl's student level.

For this,

Researcher raised question to them and noted as below:

"We have so many students in the classroom. So we can't give proper time to each students therefore that not our students have the same opportunity."

[Head teacher]

Up to students are enrolled in a class but not all the students come to the school. It is very difficult to handle the students. So, we can't even ask them individually about their mathematics problem.

[Mathematics teacher]

"There are a lot of students in the -class. So there is a lot of noise in the class. We do not hear back. Teacher cannot teach loudly. He can't complete homework Checking of all student."

[Student 'A' view]

"Teacher can't teach loudly and Most of the students busy in out topic discussion."

[Student 'B' view]

"Teachers can't complete homework checking of all students but the teacher gives homework everyday. Teacher checks few copies without any systematic way."

[Student 'C' view]

"There is big size classroom, teacher focus to the talented students. They will not care poor students."

[Student 'D' view]

"Talented students ask in the classroom but the poor students sit the middle and last bench."

[Student 'E' view]

"We don't know how many students are in the class but the teacher must teach all the students equally."

[Parent '1' view]

"We don't know how they sit in the classroom. Teacher should focus the poor students more than talented students."

[Parent '2' view]

From the above statement I found that there was big size classroom so students were sitting tightly. It is difficult to handle the large size classroom. When there are many students in the class, the study is not effective. The large number of students in the classroom, it is also teachers feels difficulty to check their homework and class work; it is also difficult to teach in a clam manner. From this researcher concluded that it is very important aspect which affects learning mathematics. In my opinion, if there are many students, they should be taught by dividing the classes.

From the literature review and theoretical understanding, researcher found that it is important component. They advised for limited class size but in the context of Nepal it is not found. In my opinion, if there are many students, they should be taught by dividing the classes.

Textbook

The textbook is manual a instruction in any branch of study (Pandit, 2015). Textbook are produced to meet the needs of educators, usually at educational institution. People use a textbook to learn facts and methods about a certain subject textbook play a vital role in the teaching learning activities. But the researcher had pointed over the specially the mathematics textbook. Textbook is important because it is reservoir of knowledge. It sharps the mind of students. Researchers willing reaches to optimum level together the real information from head teachers, math teachers, parents and student's

Researcher raised question to them and noted as below:

"The textbook is satisfactory. The example and question answers is homemade but we haven't been able to bring the students from the lower classes well. "

[Head teacher]

"I think the math textbook should be changed it should be reformulated. Now day many students have a phobia of maths. Have to get excited by putting multiple choice questions in mathematics."

[Math teacher]

"In the exam the question is very difficult and it's come out of the book. It is necessary to remove the calculation of construction and keep multiple choice question. Somewhere answer are wrong so the answers make a confusion so it should be re-edited or revised date to date."

[Student 'A' 'B' 'C' common view]

"New topic, essential chapters should be added and not essential chapter should be removed."

[Student 'D' view]

"In this book exercise are lengthy, unnecessary answer's mistake."

[Student 'E' view]

"I don't know much about math textbooks. The book should be revised from time to time. "

[Parent '1' view]

"We don't know about the syllabus. We are uneducated so we don't know the quality of textbook."

[Parent '2' view]

From the above interview, I found mathematics in book exercise, are that lengthy unnecessary, answer's mistake. Textbook was not concise. Mathematics textbook is not suitable textbook, effective practice book. So Math books need to be modified from time to time.

From, the constructivist approach in mathematics learning is argued to lead understanding of mathematics when applied to the physical, social and cultural experiences and developmental contexts of the learner whereas traditional mathematics use highly structured worksheets, step-wise rulers practice examples, and formulaic solutions to word problems has been criticized for its poor survival of understanding and application beyond the classroom (Rana, 2019).

Techniques and Tools

Mathematical techniques are based on the representation of the essential aspects of system using mathematical an actual language (Farahani, Rezapour &

Kardar, 2011). There are different techniques used in teaching mathematics. They are student centered, problem solving discussion method and teacher centered. A well trained good teacher uses the different teaching method according to the lesson of mathematics. Mathematics a subject of practical knowledge to fulfil the objectives of teaching lesson with the appropriate, teaching aids, materials method of teaching learning correctly according to should be chosen the nature of lesson (Johansson, 2006). Most instruments are used within the field of geometry.

"Uses the materials available in the school. There are some teaching materials in our school, we have demanded a math laboratory. Sir uses the problem solving method and students centred method for teaching learning activities."

[Head teacher]

"Mostly I use students centered method according to the lesson. I use the materials available in the school. I use problem solving discussion method for effective teaching learning and most of the time where as possible materials."

[Math teacher]

"Educational materials are rarely used in the classroom especially when studying geometry. In the classroom, mathematics teacher solve the problem using that formula we feel difficult to remember such formula we get confusion where the, formula should be used."

[Student 'A' 'B' 'C' 'D' common view]

"In the classroom, usually our mathematics teacher write the formula on white board. Mathematical materials are not used in the classroom."

[Student 'E' view]

"We don't know mathematical tools and materials but the daughter sometimes demands that she bring mathematical materials."

[Parent's common view]

From the, above interview, I found that teacher was used students centered method and available, materials according to the nature of lesson. Sometimes teachers used problem solving method, discussion method, inductive and deductive method as well. Teacher teaching without any teaching aids on the other hand he gave emphasis on the students active participation in teaching learning activities.

Economics Factors

Economics factors is the components which describes about the parents economic status, parents occupation and parents supports. It is crucial component which is directly associated with learning of students (Aikens, and Barbarin, 2008). Economic status of some parents are well while other are not. So they could not make the home environment according to will of students. Because they are poor.

Economic factors are the said to be the factors that influence on persons' life, on student' leaning. they are measured by a combination of variables: parent level of education, lack of school fees and learning materials, engagement in house hold activities, etc. (Bizimana, 2011).

Parents Economic Status

Parents economic status is one of the important aspect effective factor in studying mathematics. Economic status of parents is determining their children education. The economic status of the parents directly affects the children's learning. In this school, most of the student's parent who have poor economic condition.

Researcher has asked the questions and noted them in their respected voice below:

"Most of the parent's who have very poor economic condition and due to the lack of sufficient land, they have been suffering from poverty."

[Head Teacher view]

"All most student's family economic condition is poor they could not able to take extra classes from mathematics. I manage the tuition class for week students but most of the students absents due to the lack of fees for tuition class."

[Mathematic Teacher view]

"Our family economic condition is poor. Out of the school time I engaged in household work. I am less interested in mathematics subject."

[Student 'A' 'D' 'E' common view]

"10 to 4 I have engaged in school but other time engaged in housework"

[Student 'B' view]

"I am from middle class family. My parents are farmer. They didn't have money for my education"

[Student 'C' view]

"Economically we are poor. We work hard to educate our children."

[Parent '1' view]

"I'm a farmer. I have no education at all, I have a small piece of land and production of that land hardly supports our daily necessities."

[Parent '2' view]

From the above interview, I found that in this school most of the students from low economic base and uneducated primary background. The children are busy in house work instead of doing homework. So that they become weak in mathematics.

The UNESCO rightly observes that "The increased financial resources for students to apply their knowledge in practice, could help stimulate interest among female students to potentially pursue this discipline in further study."

Parents Occupation and parents support

Parent's occupation and parents supports are the one of the important aspect of students pass in mathematics. Parents role are play important in of their children education. Occupation of people, determines his/her economics, social and educational values. Parent's support and motivation are play a vital role in students pass in mathematics.

"Most of the student's are labour and our school were from low economic base."

[Head teacher view]

"Most of the parents are labour and farmer. Rearly parents come to the school to realize their children real situation."

[Math teacher view]

"My parent's are uneducated and they don't teach me but provided counselling and motivation to study mathematics and also provide needed materials and sent tuition class."

[Student 'A' 'C' common view]

"At the home my big brother teach me and mom and dad always support me for study."

[Students 'B' view]

"My parents don't teach me but provide needed materials and sent tuition class for mathematics."

[Student 'D' 'E' common view]

"I am a farmer I haven't read much but I provide all the necessary materials for reading."

[Parents common view]

From the above mentioned interview. In this school, there most of the students parent are labour and uneducated but that parents provide all the necessary materials for reading and writing and sent their children in tuition. By the cause of parents occupation and financial problem students couldn't give full time for study and in the classroom. Therefore, parent's belief about what they are supposed to do in their children's education and appear to established the basic range of activities.

"Parents who play supportive role to their children learning and it is helpful for improve student's achievement and changing behavior parents support can play a vital role at all stages of education. (Acharya, 2017).

Parental expectation, educational status and occupation of parent appear to be medicating factors for the formation of student's attitude towards mathematics (Tobias, 1993).

Social Variable

Human Beings are the rational animal they lives in society. They do all the work in the society. So every activities of socially affect them. Our society is male dominated society and social image that mathematics is a difficult subject which is only for intelligent one. It is also male dominated subject, socially belief system of mathematics that mathematics is hard subject. It also follows rote learning and memorizing the formulae which is decreasing the interest of girl's student towards mathematics.

Culture

A culture is a way of life including people behaviour, arts, values, beliefs, symbols and particular group of people. Different people have different culture and different cultural groups think, feel and act differently. Our culture affects virtually every aspect of our life and this is the primary factors to affects girl's achievement.

"Student's of different religions and cultures come to study in our school.

School culture has a great impact on studies when the festival comes, the students do not come to school. The most students were absented on the following day."

[Head teacher view]

"In the feast and festival, students like to go shopping and travel rather than study students do not prefer to come school on following day so culture effect on their study."

[Math teacher view]

"I am very happy when the festival come. There is a lot of work to be done at home during the holidays and parents do not force to go to school at that time and study during the festival."

[Student 'A' 'B' 'C' common view]

"I was engaged in feast and festivals as our culture and our parents do not force to go to school at that time. So, culture effect on our study."

[Student 'D' 'E' common view]

"Student like to go shopping, watching movie and travel during the holidays."

[Parent '1' view]

"Student not make a time for study and not complete homework so culture effect on study."

[Parent '2' view]

From the above interview, I found that students do not prefer to come school on the feast and festival. the most students where absented on these day. So, culture effect on the learning environment of the students. Similarly, they did not complete their homework, they like to go travel, watching movie, shopping during the holidays. So, cultural factors directly affect the girl's learning in mathematics.

Culture customs and beliefs and practices influence decision to enrol girls in school. From this point of view, Herz and other (1991) stated that girls are expected to have special physical protection. Traditionally they often demand especial concern for privacy and social reputation. In some societies there is a cultural belief that females must be selected from direct confrontation of other members of the society during puberty stage.

Male dominated Society /Social Belief

In our society mathematics is taken as a subject of male concern, a hard subject and just for a cleaver one. That the society is not interested in investing money on girls education parents are unaware of the benefits of girl's education. Researcher raised question to them and noted as below:

"This is the traditional effect of gender equity which influences the girl mental development and learning in mathematics. But in our school girl's tend to be first, school and third in the secondary level."

[Head Teacher]

"Mathematics is the same for everyone who can study hard can bring a good position we do not discriminate between boys and girls."

[Mathematics teacher]

"I am weaker in mathematics than in other subjects. I don't feel like learning maths because I don't know how to do maths, but all students are taught equally in school."

[Student 'A' 'B' common view]

"I was weak in mathematics from the beginning of my school. I also did not try to learn from different way. But our society does not determine mathematics is only for boys students."

[Student 'C' view]

"There is a social belief system that girls cannot study mathematics properly. This influences on choosing mathematics subject for the girls."

[Student 'D' 'E' common view]

"We do not discriminate between sons and daughters. We have given equal education to both."

[Parents view]

I found from the above statement society has a big role to play in learning mathematics. Attitudes towards learning mathematics have changed in the society now as compared to the past. But the barriers of society like a political, economics, religious, cultural, geographical condition affect in the study of mathematics education learning for girls. Mathematics education learning for girls. Mathematic is the same for everyone who can work hard they can learn the mathematics.

In this regards, Gates and Vistro (2003) argue that negative public images of mathematics might be one of the factors that has led to the decrease in student`s enrolment in mathematics and science at instructions of higher education. Further they argue that mathematics is taken as a subject of male concern, a hard subject and just

for a clever one also found that mathematics and science have always been stereotyped as strongly male or masculine subject. It can be due to reason that most mathematics teachers in secondary school and large majority of mathematics were found to men.

Home Environment Factors

Home environment is one of the most important aspect of learning mathematics. It is said that in the house where the mother is educated, all the members of the house are educated. So, home is the first school of child and mother is first teacher. All children learning mathematics depends on their home environment. All the student's position in mathematics from all schools depends on their home environment. All the student's position in mathematics from all schools depends on their home environment and their society behaviours in this study parents are not aware in child education.

From the perspective of Vygotsky's (1978) constructivism theory, learners can build mathematical knowledge by participating in a variety of social activities, interacting with others, and debating with others. In point, new knowledge can be built from pre-existing knowledge, own experience, learning requires an emphasis on mental processes and thinking (Acharya, 2017). Thus, the learner must be active in learning, and also the learner can build mathematics knowledge by discovering and exploring.

Parents Education

Parent's education is one of the important aspect of parent factors studying mathematics. Parent's education can play a vital role at all stages of education. Educated parents support for their child's learning can make good achievement in

education. Parents who play supportive role to their children learning. The children learn many things from their parents.

Researcher raised question to head teacher, mathematics teacher, student's and parents.

"But parent's education is very essential part of learning. Most of the students are from poor economical background and uneducated family. So, parent's cannot create positive attitude towards mathematics."

[Head Teacher]

"In our school, most of the students are from uneducated family. Parents cannot able to support to learn mathematics students also feel mathematics is difficult subject."

[Math Teacher View]

"We don't have proper home environment in our home. My father slightly educated and mother is uneducated. Parents cannot able to support me to learn mathematics so I cannot study mathematics very well."

[Student 'A' 'C' 'D' common view]

"My father and mother both are uneducated. Parents cannot able to support me to learn mathematics."

[Student 'B' view]

"My parents are educated. My parents support me to learn mathematics."

[Student 'E' view]

"I am illiterate. I don't know what mathematics is and what other subject is. But I can be able to support in children learning."

[Parents view]

From the above interview of students head teacher, mathematics teacher and parents indicated that all most the parents are illiterate. Most of the student cannot get

any support from their family to learn. Students also feel mathematics is difficult subjects. Student's less interested in mathematics subject.

In point, uneducated person unaware about the importance of mathematical knowledge in their life and they cannot force to learn mathematics to their child.

Students pass in mathematics from all school depends on their parents education and they learn everything from their family member characters and their society behaviours in this study parents are not aware in child education (Acharya, 2017).

Practices Time

Practices time is another and importance aspects home environment factors that affect students low pass in mathematics. Mathematics is needed practice which has different theory and several formulas. So learning of mathematics, students should be manages extra time for practice. It was affect on student show pass in mathematics. That important components is practices time.

Researcher asked the question related to this and noted them in their respected voice.

"I even if there is a vacancy in the classroom we teach the students to do the math."

[Head teacher view]

"Student's don't give proper time to the difficult subject. They don't give enough time to their mathematics subject."

[Maths Teacher]

"We don't have proper time to read and give time to all subjects equally. If I know one exercise of mathematics, I will like to do another, but if I don't know, I will not another practices."

[Student 'A' 'B' 'C' common view]

"Mathematics is very difficult subject it need to be practice more. But I don't have sufficient time for practice. So, my study is not well."

[Student 'D' 'E' view]

"We are from poor economical background, So that we can't make them free all time. After doing some housework, I take my children to practices mathematics."

[Parent '1' View]

"They are lazy, they don't give time to their study. They also support in our corn field."

[Parent '2'View]

The above view of head teacher, mathematics teacher, students, parents indicated.

They can able to manage time for learning in home due to labour, farming occupation.

Also the students being lazy they don't give proper attention toward study. Due to the difficulty of maths, some students do not even have time to practice.

Household Workload

Household workload is next important aspect of home environmental factors.

In Nepali society, daughters are used to do housework from an early age there is a situation where one has to go to school after finishing house work in the morning and evening, especially for one's daughter which affects their study and gives poor performance in the school. Parents today tend to focus less on house work and more on their studies.

Researcher asked the question related to this factors and noted them in their respected voices.

"Most of the student in our school are in poor financial condition so they have to do the house work this has affected to their studies. In our school are in poor financial condition so they have to do the house work this has affected their studies."

[Head Teacher view]

"Many girls student have to do their house work. Most of time some of the girl students come to school without complete their homework and most of the parents do not provide appropriate time to their child."

[Math Teacher view]

"I do housework in morning and evening even during the holidays but manage time for study."

[Student 'A' 'B' 'D' common view]

"I engaged household work in morning and evening. So I cannot solve all homework properly."

[Student 'C' 'D' common view]

"We are poor so, busy with other work due to poor economic condition. Our children are engaged household work in morning and evening. Our children get to study only after finishing their housework."

[Parents common View]

From the above views, I found that most of the girls students are engaged household work in morning and evening so most of the girl students present in the classroom without complete their homework. Students say that housework activities were our daily duties we should do these works because our parents busy another work.

Bigg's Model (1985), mentions that students learning is influenced by students' personal and situational factors. It directly influences students performance. The

personal factor are affected by ability, prior knowledge, personality and home background of a students. It is also influences students performance in a given subjects.

Personal Related Factors

Personal related factors is one of the important aspects of high fail rate in mathematics plays vital role in learning process. Without interest of learner in learning activities there is no possibility to achieve knowledge in subject matter. Learner's achievement depends on their interest and practices in subject matter. Personal related factors include interest of learner, prior achievement, peer learning using of technology. These nature that directly affect the girl's learning in mathematics.

Interest of Learner

Interest of learner is a one of the important aspect of personal related factors. Factoring for learner interest works well with instructional planning based on readiness and learning profiles. Interest is determined by the activities of the society mathematics learn depends upon the interest of learner/.

Researcher asked the question and noted them in their respected voice as below:

"First the learner must have the desire to learn mathematics but present students do not have interest in mathematics learn."

[Mathematics Teacher's View]

"I am not interested to solve mathematics problem because, I don't understand teaching, So I actually not like to learn mathematics. "

[Student 'A' 'C' common view]

"Class books are not tied up with junior graded books. It is haphazardly edited and formulated exercise is not proper. We are not interested to solve because we don't understand teaching"

[Student 'B' 'D' common view]

"I feel bore when teacher start to teach mathematics. I have interest in learning stories and drama."

[Student 'E' view]

"Our daughter doesn't like to study maths because she is weak in maths. We ask our daughters to practice math."

[Parent '1' view]

"She just goes to school but other time not study at home."

[Parent '2' view]

From the above view, I found that students are not interest in mathematics, because they don't understand mathematics teaching. There was traditional teaching strategy therefore students felt bore in their study. Similarly, they didn't practice at home so they are weak in mathematics and text book was not suitable and enough for practice. Due to the students not interest in mathematics they are very weak in mathematics.

Based on constructivist perspectives on learning, Students should be active in their learning (Acharya, 2017). According to this learning principle, the learner must build knowledge for himself, and also the teacher should use a student-centered teaching method in teaching/learning mathematics in the classroom (Pandit, 2017 as cited in Dhakal, 2019). This theory focuses on real-life learning environment, social interaction and the use of complex ideas share with another outside of the classroom.

Peer Learning

Peer learning is another aspect of personal related factor which means the when one or more students teach other students. Peer learning is an educational practice and learning technique, that gain knowledge peer learning in increasing the student's skills and students role. Peer learning by helping, sharing and encouraging efforts to learn.

Researcher also asked the question to them and noted as below:

"Some students have their own group. They discuss in their group those who do not know how to read don't pay attention to reading."

[Head teacher view]

"I always tell students to form a group of talented and poor. I always tell talented students help weaker students in their studies."

[Math teacher view]

"Some people only form groups sometimes we only discuss in group."

[Student 'A' 'E' common view]

"We all students have friendship. We have group of talented students, they cooperate us in our study. They are helpful but few students are jealous."

[Student 'B' 'C' 'D' common view]

"Peer learning helps to students to minimize their problem."

[Parent '1' view]

"Peer learning helps the students to learn properly, learn effectively, learn enthusiastically. It helps to students to minimize their problem."

[Parent '2' view]

From the above interview, I found that only some students have their own group they discuss in their group. But most of students are not serious in their study some students says peer learning helps to learn properly and effectively.

From the perspective of Walberg (1981) teachers should follow the various teaching techniques focusing more on individual and group presentations, discussions, tests, debates, and student decisions, and the application of mathematical models for solving the problems (Poudel, 2017). And also from constructivist approach students need to interaction to each other from students-students, students-teacher for effective mathematics teaching in the classroom (Acharya, 2017; as cited in Dhakal, 2019).

Technologies Impact

In present time technology plays on important role in society. Technology has positive and negative effects on the world. Now a days students do not interest in study. Most of the student's interest in social media, watching T.V., social media and TV give an informative program but student can't watch this program and learn. Misuse of technology affected factors of achievement.

Researcher has asked the question and noted them in their respected voice as below:

"Technology plays vital role in learning mathematics. Today it has been misused. Internet, mobile, TV gives informative program but student can't watch this program."

[Head teacher view]

"Today is the modern age. Now a days new technology has been developed. But the students have misused technology."

[Mathematics Teacher View]

"Sometimes I only watch informative programs on mobile and television. Most of time I watch movie serials, tiktok on my mobile."

[Student 'A' 'D' 'E' common View]

"I don't watched informative programs. I like only Hindi and Nepalese movies and serials."

[Student 'B' View]

"I have no mobile. Sometime, I watched informative programs on television."

[Student 'C' View]

"Our daughter less interest in study of mathematics but she watch movie, serials, tiktok, facebook on mobile and TV."

[Parent '1' view]

"My daughter not interest in study of mathematics but every time watches in TV and mobile."

[Parent '2' view]

From the above views, I found that students are involved to internet watch T.V. mobile. There is some informative programs provided by the T.V. mobile but they did not watch this program. They like facebook, tiktok, movies, serials. Misuses of technology has a negative impact on mathematics learning.

Teacher's behaviour towards Girls'

In Nepali context, there are few woman teacher in mathematics at secondary level to the comparison of male teacher. Girl's are family to female teacher more than male teacher. If there are female teachers in school the girl's student feel secure and encouraged from the female teachers. These female teachers are likely to act as role models for girls students. They can also be supportive factors to create girl friendly

environment in schools. There need to be sufficient number of women teacher in the academic field.

Research made question related to this she noted them as their respected voice.

"I know girls are familiar to female teacher more than male teacher. But in our school nobody teacher has ever mistreated a girl's students."

[Head Teacher view]

"I teach boys and girls without any discrimination. Girls are afraid to say their problem."

[Math Teacher view]

"Sir still does not treat the girl badly but when we ask about a problem we don't know, sir shouldn't tell."

[Students 'A' 'B' common view]

"We cannot share our problem with teacher and in the classroom teacher think that girls are weak in mathematics so they do not give priority to girls."

[Student 'C' 'D' 'E' common view]'

"A present, girl's are not safe in school or anywhere else. The teacher misbehave that the girl is week in mathematics."

[Parent '1' view]

"There shouldn't be lots of female mathematics teacher. Due to lack of female role models girls are discouraged to study mathematics."

[Parent '2' view]

I found from the above statement Nepalese girl's don't have freedom like girls develop countries. There is no place and no person to share their problems and difficulties regarding their study. Male teacher not understand girls student problem. If there were female mathematics teacher they understand girl's problem and teaching

their study. Male teacher not understand girls student problem. If there were female mathematics teacher they understand girls problem and teaching by using to different strategies.

Menstruation Problem

Painful periods negatively impacted student's ability to attend school, complete assignments study for exams and participates in class activities. However these impacts were unnoticed by secondary teaching staff menstruation may be causing girl's to miss a significant number of school days. Girl's report missing school during their periods and lacking access to modern sanitary products lack of menstruation knowledge, poor access to sanitary products and non facilitating school environment can make it difficult for girl's to attend school.

Researcher raised question to head teacher mathematics teacher, students and parents and noted them.

"We have arranged separate toilets and sanitary pads for female students."

[Head teacher view]

"Many female students do not come to school during the period."

[Mathematics teacher view]

"The school has sanitary pads but no spare room for relation. I don't like to come to school during my period."

[Students view]

"She refuses to go to school during periods. She relaxes at home."

[Parents view]

From the above interviews of head teacher, math teacher, students and parents indicated that Girl's are less likely to be in school on days of their periods. Girl's performance and affective patterns fructuate with their menstrual cycle poor mental

performance is generally more common during menstruation and per several days prior to on set.

This section discusses about the problems faced by girl's student while learning mathematics at secondary level which are from classroom observation and interview schedule.

4.3 Teaching Strategy

A teaching strategy is the method used to deliver information in the classroom and approaching a problem or task, modes or planned design for controlling and manipulating contain information. Teaching strategy are methods we use to teach in order to facilitate our students learning motivating the students, encouraging them for further improvement, involvement of the students, active participation management, psychological and physical treatment of students and also it helps us to teach in a more creative way.

School's Policies for Learning Mathematics

School Policies are put in place to guide the day to day functioning of the school as well as to make safe and effective place for learning and the policies are reflection of the values of the people. Who created them. School policies play vital role in the teaching learning process. School policies are very important because it help a school establish model operating procedures and create standards of quality for learning. Researcher willing reaches to optimum level to gather the real information from head teacher, math teacher, students and parents.

For this researcher raised question to them and noted as below:

"We are forming a separate department to improve students learning specially focus on mathematics from now on, we are also arranging entrance exam."

[Head Teacher view]

"The school has formulated a tripartite plan to improve the learning of the students. The solution is found by discussing the student's problem with the students teacher and the parent together. Also I have provide a tuition class for weak students."

[Maths teacher view]

"The school has provided extra class in the morning where important questions are discussed. Also school has provided tuition facilities at minimum cost for SLC appearing students."

[Student 'A' 'B' 'D' common view]

"But the number of students are some as previous class, so the school should manage us at least two sections by observing the level of students."

[Student 'C' view]

"The school has provided extra class is the morning at minimum cost."

[Student 'E' view]

"The school has provided extra class and tuition class. We have sent our children at school for extra class. "

[Parent '1' view]

"But some parent can't send their children for extra class because of their poor economical background."

[Parent '2' view]

I found from the above statement that school policies is essential part of improve learning. Especially, the school provided the extra class and tuition class to support for learning mathematics. The school has formulated a tripartite plan to improve the learning of the students school started tuition facilities at minimum cost for SEE appearing students from this year aiming to 100 percent with the help of

teacher. So, the students are getting happy to pass the SEE exam. The above view indicates that a lot of improvement will be done from this year and the process of improvements are still continuing.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSION AND IMPLICATION

Chapter Overview

This chapter covers the summary of findings of study found out from organization, analysis and discussion of the field data and information, conclusion based on the findings and possible implications of this research hence; it is further divided into four section as summary, finding, conclusion and implication.

Summary of the Study

This study was based on case study. The main purpose of the study was find out the factors that affect the girl's student learning in mathematics and to identify the problems faced by girls while learning mathematics. The population of the study consisted of the girl's student who are studying in mathematics at secondary level in Pardi Secondary School in the academic year 2078.

The design of the study was qualitative research approach. The major tools of the study were school documents, class observation and interviews. It has been selected mathematics classes and five mathematics girls, one head teacher, one mathematics teacher two parents. The researcher develop the observation from and interview questions for collecting information. Observation form with the help of previous study thesis and interview schedule was used to find out the factor affected the girls learning in mathematics at secondary level and find all the problems faced by girl's while learning mathematics.

Findings

The findings of the study on the basis of analysis of the collected data are follows:

- Based on classroom, it was found that girls have regular in classroom attendance.
- On the observation, it was found that most of girl students were poor on doing classwork and homework.
- Some girl's participate in the extracurricular activities.
- The school had sufficient room, desk benches but school have not sufficient play ground with playing materials. It was lacking a library for mathematics materials and lab.
- Teacher were capable in academically but they weren't using new techniques and tools. They were teaching traditionally teachers were not following the modern technique and teaching methods.
- Teacher didn't check homework and class work regularly. So, students were careless about their homework.
- It was found that family background is the major problem of girls'. Most of the girl's from the middle class family and uneducated family.
- This study found that, lack of student's own interest in mathematics subjects, lack of text book in this school, lack of school policy, lack of peer group learning interaction in mathematics are the major factors that affect in students learning mathematics at secondary level.
- This study found that, students do not have enough time for learning mathematics at home because of their household workload.

- This study found that, there was not suitable textbook effective. Practice book so that students could develop their potentiality themselves, unit test and class test were done according to teacher's interest.
- The school management committee of the school had arranged new policies at school to promote the overall achievement of girls students.
- Most of their parents is busy in labour work. So their children have to do household work and other activities. As a result their mathematics achievement is poor.
- Most of students were not interested in mathematics subject. There was traditional teaching learning strategy and method. Therefore students feel bore in their study.

Conclusion

From the above finding, it come to the conclusion that there are some factors that are detrimental to low performance of girl's student in mathematics. Most of the girl students from the low class family and uneducated family. So, they were involved in household works they cannot sufficient time for mathematics practices. Parents support, student's interest and positive feeling of mathematics increase the pass in mathematics. Society as a whole believed that girl is mathematically poor than boy. This reinforced the belief that they are not capable of doing well in mathematics so they are not participating in mathematics classroom. Changed the perception and attitudes of the girls student negatively.

The current teaching methodology, new teaching technique, teaching materials behavior of teacher negatively affects the attitude of the students. Most students perceive teaching method, teaching technique as being difficult for students to understand. The school must provide refresh training to the teacher time and again.

Peer learning for their mathematical problem had strongly positive effect on mathematics of girls students and practices time is very essential for increasing the mathematics achievement of girls students. Therefore, if the students are encouraged to above practices, the achievement will increase. Family backgrounds are also have some positive effects on mathematics learning of girls students. So parents create good environment at home for learning can improved the mathematics achievement of girl's students.

At last, it is concluded that girls are equally talented and should be given equal facilities at home and school to learn mathematics. Above factors are very essentials for increasing the mathematics achievement of girl's students so these factors should be improved.

Implication

After the above findings and conclusions of the study I made the some implication or suggestion for the improvement and mathematics learning.

Most of the girl students are weak in mathematics and are not participation in mathematics education programs for girl students. Only the researcher has researched about factors which affect learning. Although qualified, trained and experiences teachers are working at public schools. Continuous assessment system, implementation of operational mechanism and its continuous analysis, a change from syllabus focus to students' outcomes as well as a move form teacher directed classrooms to students centered learning is necessary to maintain quality education at school. From the above findings and conclusions, the researcher would like to suggest some implication for the improvement of mathematics learning of the mathematics.

- This study helps to find out the way to decrease the failure rate of the students.
- It helps to guide the instruction on the basis of the individual difference.
- This study helps for students to be aware of the main problems of the mathematics to adopted required strategies for the improvement.
- It is helpful the government to adopt globally for the education level.
- It is helpful for mathematics teachers, students, researchers, curriculum planners, textbook writers, educationists, and students themselves.

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APPENDIX A
CLASS OBSERVATION NOTE

Date:

Name of the School:

Topic:

Grade:

Time:

No. of students:

1. Environment of the mathematics classroom
2. Teaching learning activities.
 - Beginning of the class
 - Teacher Personality
- ii. Setting the storage for learning.
 - Interestingly the objectives of the lesson
 - Based on previous lesson
 - Class arrangement
- iii. Acquisition of Learning
 - Students involvement
 - Providing suitable example and learning guidance.
 - Encourage for sharing and small
- iv. Group Discussion
 - Appropriate of questions answer between students and teacher.
 - Teacher and students interaction
 - Provide corrective feedback

- v. Integration of teaching materials
 - Applies the materials truth
 - Topic related and attractive materials
- v. Closure of lesson
 - Motivate reward and punishment
 - Relates lesson to objectives.
 - Allows for girl's students involvement.
 - Checks the understanding of students
 - Provides homework.

APPENDIX -B

GUIDELINES FOR INTERVIEWING HEAD TEACHER

Name:

Age:

Address:

Permanent :

Temporary:

Qualification:

Teaching Experience:

- School Facilities for girl's.
- Classroom management
- Participation of girl's in learning activities co-curricular activities.
- Relation with parents /guardians
- Teaching methods
- View of teacher towards the affecting factors of girls for educational achievement.
- Opinion towards mathematics learning in classroom.
- Girl's interest in mathematics learning activities.
- Participation of girl's in mathematics classwork and homework.
- Students upgrading system.
- Which strategies taken by school to improve in girl's achievement.
- About Technologies impact.

APPENDIX -C

GUIDELINES FOR INTERVIEWING MATHEMATIC TEACHER

Name:

Age:

Address:

Permanent :

Temporary:

Qualification:

Teaching Experience:

- Mathematics Classroom management
- Teaching method and materials that are used in mathematics class.
- Participation of girl's in mathematics learning activities.
- Relation with teacher and student.
- Participation of girl's in mathematics classwork and homework.
- View of mathematics teacher towards the affecting factors of girls
- Interest of girl's in mathematics learning.
- Which strategies taken by school to improve in girl's achievement.
- Technologies impact.

APPENDIX -D

GUIDELINES FOR INTERVIEWING WITH GIRLS STUDENTS

Name:

Age:

Interested subject:

Address:

Aim in life:

Address:

Occupation of parent:

Permanent:

Temporary:

- Opinion of facilities provided by school.
- Participation of mathematics class.
- Opinion towards mathematics teacher.
- Opportunity of the girl's to learn at home.
- Teacher's behavior towards girl students.
- Relationship between girl's and teacher
- Which factors affects the girl's to learn mathematics?
- Encouragement provided to girl's by teacher.
- Peer learning
- Teaching method and materials.
- Opinion towards school policies for poor students.

APPENDIX -E

GUIDELINES FOR INTERVIEWING WITH PARENTS

Name:	Occupation :
Sex:	Annual income:
Family size:	Address:
Qualification	Permanent:
	Temporary:

- Opinion towards child's education
- Activities of the child at home
- Motivation, reward and punishment to their children.
- Child interest area.
- Helping their children for studying
- Relation among school's staffs /teachers.
- Household workload
- Impact of culture for learning mathematics education.
- View towards affecting factors of mathematics learning.
- Which strategies taken by the school administration to improve the girl's learning.