GIRLS' ENGAGEMENT IN MASTER-LEVEL MATHEMATICS CLASSROOM

A

THESIS

BY

BISHNU BHUSAL

IN PARTIAL FULFILLMENT OF THE REQUIREMENT

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Letter of Certificate

This is to certify that **Ms. BishnuBhusal** a student of the academic year **2075/76** with campus Roll No. **38** exam Roll No. **7528176**. Thesis Number **1781**and T.U. Registration No. **9-2-305-112-2014** has completed this thesis under the supervision and guidance of Dr. Bed Raj Acharya during the period prescribed by the rules and regulations of Tribhuvan University Kirtipur, Kathmandu, Nepal. The thesis entitled to**"Girls' Engagement in Master-Level Mathematics Classroom"** has been prepared based on the result of her investigation conducted during the prescribed period under the department of Mathematics Education, Central Department of Education, University Campus, Kirtipur, Kathmandu, Nepal. I recommend and forward that her thesis is submitted to the evaluation as the Partial Requirement to award the degree of Master of education.

Date: December 23, 2022 ……..……

Asst. Prof. AbatarSubedi

(Head)

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Letter of Approval

This thesis entitled **"Girls' Engagement in Master-Level Mathematics Classroom"** submitted by **Ms. BishnuBhusal** to partial fulfillment of the requirement for the degree of master of Education has been approved.

Viva-voice Committee	**Signature**
Asst. Prof. AbatarSubedi (Chairman)	…….
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Prof. Dr. Bed Raj Acharya (Supervisor)	……

Date: January 30, 2023

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Recommendation for Acceptance

This is to certify that **Ms. BishnuBhusal** has completed her thesis entitled **"Girls' Engagement in Master-Level Mathematics Classroom"** under my supervision during the period prescribed by the rules and regulations of Tribhuvan University Kirtipur, Kathmandu, Nepal. I recommend and forward her thesis to the Department of Mathematics Education to evaluate in final viva-voice.

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Prof. Dr. Bed Raj Acharya

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Dedication

This is dedicated dedicate to my father Mr. AnantuBhusal, my mother KeshariBhusal, and my husband Mr. Prem Narayan Ghimire. Who love, support, and encouragement have enriched my soul and inspired me to purpose and completed this research.

Declaration

This thesis contains no materials which have been accepted for the award of another degree in any institution. To the best knowledge and belief, this dissertation contains no materials previously published by any authors except due acknowledgement has been made.

…….

(BishnuBhusal)

Date: January 30, 2023

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I am grateful to my father Mr. AnantuBhusal, and my husband Mr. Prem Narayan Ghimire, for their support and encouragement. Sincerely, the achievement of this study was not possible without their continuous support. Also, it is my pleasure to express my thanks to my sisters, my mother, and my whole family and friends for their help and support during my thesis work.

Abstract

This study focused on girls' engagement in master-level mathematics classrooms. The main objectives of this research are to exploregirls' engagement in mathematics learning in the classroom and to explore strategies for promoting girls' engagement in mathematics learning in the classroom. This study was based on a qualitative research design with a narrative inquiry. Four girls and two female mathematics teachers were selected as sample by the purposive sampling method. Department of mathematics education Tribhuvan University Kirtipur was my study site. Class observation and an interview schedule were the data collection tools of my research. The data were analyzed through coded, categorized, and making themes using of Thomas a general inductive approach.

It wasfound that girls' engagement in mathematics classes was low. This study found that attention should be to various things (Attendance, interaction with the teacher, interaction with peers, doing class work, Use of ICT tools, interaction in groups, doing assignments, and involvement in extra-curricular activities,) to increase girls' engagement in the mathematics classroom. Encourage girls to study mathematics by answering questions without discouragement, creating a girls-friendly environment for group work, implementing equitable pedagogy,parentsemphasis should be give opportunity for girls learn to mathematics at home, and attention to teacher behavior toward girl students learning mathematics in the classroom.

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Chapter I

INTRODUCTION

Background of the Study

Mathematics is the most crucial aspect of human life. In the context of Nepal, mathematics is a subject that was taught from schools to universities and was included in all curricula. At the school level, math has been made compulsory that is required, and it is still a major subject at the upper levels. Think of this topic as the foundation for contemporary scientific and technical advancement. Nepal is a developing nation with an illiterate majority. In addition, girls' engagement in mathematics was low at various levels of education in Nepal compared to state government schools and other countries. I studied mathematics at different levels, at that time there were few women in mathematics. The girl doesn't engage much in the master's level math lesson. In our situation, female students might be less motivated to continue mathematics beyond the classroom. There are numerous reasons why women do not want to pursue a math education. The girls may not receive the same opportunities as the boys because of the parents' lower emphasis on them at home and teachers' lower emphasis on them in mathematics classrooms. Another factor contributing to women not choosing-higher level mathematics is early marriage. They are under additional pressure to maintain their home and fulfill their obligations.

Though the trend is uneven and the number of students studying mathematics is very low, it has recently been increasing. Available according to information, women are far less likely to choose mathematics at the bachelor's degree level, with the likelihood decreasing even more at the master's and Ph.D. degrees. Other comparable research in the case of Nepal and in other countries has verified this pattern (UNESCO, 2015). Several researchers worldwide have discussed mathematics

as a gateway subject that separates students despite their social background and gender (Walkerdine, 1998). Several of the girl students at the secondary level do not like to select mathematics as a major subject due to the fear of failure in examinations. The premise that girls don't like this subject is a major subject for educators, stakeholders, and researchers. Girls in our society have fewer educational opportunities than males, leading to the misconception that math is a subject best left to men. Because of the gender inequality that some cultures in our society have engendered, it is thought that girls should find mathematics challenging in order to do well in school. The girls were hesitant to continue their math studies. Bachelor's level mathematics education is distinguished by a low number of female students, a low number of female teachers, and limited availability of resources and equipment (Shakya, 2021).

Tribhuvan University's central department of mathematics education has 14 mathematics teachers, three of whom are educated women. There were 82 students in our batch, and 19 of them were girls. The table below shows the five-year performance of mathematics students at Kirtipur's Central Department of Education.

Table 1.1: A *Record of Mathematics Learning Students from Academy Year 2073/74 to 2077/78*

Year (B.S.)	Girls	Boys	Total
2073/74	31	125	156
2074/75	17	72	89
2075/76	19	63	82
2076/77	7	26	33
2077/78 (ONLINE)	1	24	25
2077/78 (CS)	7	19	26

Sources: (BaikunthaMaharjan)

According to the above table, there were 20% girls and 80% boys students in the academy year 073/74, 19% girls and 81% boys students in the academy year 074/75, 23% girls and 77% boys in the next year 075/75, 21% girls and 79% boys in the next year 076/77, and 4% online and 27% physical class girls students and 96% online and 73% physical class boys students in the academy year 077/78. The above table shows that female engagement was lower than male engagement.

According to the Central Bureau of Statistics (CBS) National Population Housing and Census, the female literacy rate in Nepal was low than the male literacy rate in each of the last five years, as shown in Table 1.

Table 1.2: *The literacy rate of Nepal in 2028 B.S. – 2068 B.S.*

Date [B.S.]	Female	Male	Total
2028	3.9	23.6	14.0
2038	12.3	34.0	23.3
2048	25.0	54.5	39.6
2058	42.5	65.1	53.7
2068	57.9	75.1	65.9

Sources: (Devkota, 2017)

The above table shows that female literacy rates are lower than male literacy rates, implying that girls are less engaged in the field of education and mathematics classrooms.

Although girls express an interest in learning mathematics, their engagement appears to be low due to several factors, including the school environment, home environment, early marriage, family economic situation, teacher-related issues, social factors, and the girls' interests. Girls who studied mathematics in our patriarchal society encountered a variety of challenges, including a lack of family support, a

dearth of female math teachers, economic difficulties, and gender-specific societal norms. (Rupakheti, 2017)

Students' identities as learners and doers of mathematics are developed as they participate in activities inside and outside the classroom, as well as by the cognitive and social roles students can take as well as girls' students. As they participate in activities within and outside of the classroom, as well as by the cognitive and social roles they can play, students' identities as math learners and doers grow (Lave & Wenger, 1991; Nasir & Hand, 2008). Thus, learners' understanding of their own identities as mathematicians is a fluid and dynamic idea that is built through social practice. More particularly, students' perceptions of themselves as learners and potential mathematicians depend on their sense of their own mathematical identity (Solomon, 2007). It encompasses how students perceive themselves about mathematics as well as how much of a commitment to, interest, and the importance they place on mathematics they have personally developed (Cobb et al., 2009).

The purpose of my study was to see how the engagement of mathematics women was in the master-level classroom. Like: Attendance, interaction with the teacher, interaction with peers, doing class work, Use of ICT tools, interaction in groups, doing assignments, and involvement in extra-curricular activities, etc. I have done class observation for the first objective and interview guidelines for the second objective.

Statement of the Problem

Several research studies have emerged from the fact that most often students drop out of their studies because several of them enter into conjugal life which prevents them from pursuing upgrade level as well as university studies and beyond, the environment in the household is not supportive for some girl prospective students,

economic difficulties to support their studies, conservative culture and so on. The number of girl students at the master's level and beyond is relatively low (Ghimire, 2019).

Research studies show that it has been practiced to make the equal engagement of males and females at all levels of education but still there is a situation where girls are less engaged in learning mathematics. Experiencing a long period of learning and teaching as a mathematics student and teacher at different levels made me feel that girl's engagement in mathematics subjects is very low in comparison to boys. When I was in grades 9 and 10, I did not choose optional mathematics because, there were no other ladies. I had fear of this subject at that time, so I wanted to know how do girl students engage in mathematics classrooms ?What are the strategies for promoting girls' engagement in mathematics learning in the classroom? Some articles study dress girls' involvement in mathematics being lower than average at various levels, including master's level classes (Ghimire; 2019; Devkota, 2017; Shakya, 2021; Baniya, 2012), etc.

This study sought to answer the following researcher questions:

1. How do girls' students engage in mathematics classrooms at the University level?
2. What are the strategies for promoting girls' engagement in mathematics learning in the classroom?

Objectives of the Study

The main objectives of this study were as follows:

1. To explore girl students' engagement in the mathematics classroom.
2. To explore the strategies for promoting girls' engagement in mathematics learning in the classroom.

Rational of the Study

Mathematics is an essential part of human life. Mathematics is used by 99.99% of people, whether they were known or unknown, such as carpenters who design houses (rectangle rooms with 90 angles and other geometrical shapes), masons who develop different house designs, and other people have been used mathematics in any aspect of their work.

In our daily life, mathematics is a very helpful subject. From pre-primary to secondary levels in Nepal, it has been taught as a compulsory subject. In higher education, mathematics was a subject that was taught as a major. Math has been a key component in the creation of modern science and technology. Students must have a positive attitude toward mathematics for this to be achievable.

The study has some significance as follows:

- The study helps identify girls students engage in the mathematics classroom
- The study helps the reader for why are a low engagement of girls in mathematics at masters.
- The study helps to strategies for promoting girls' engagement in mathematics learning in the classroom.
- The study helps to know for the reader what situation the girls choosing mathematics, encourage girls, and increase your internal strength by saying that they can do it.
- The study helps to suggest, how to improve girl students in the mathematics classroom.

Delimitation of the Study

Delimitation of this study pointed out as follows:

- This study included only T.U. students with master's degrees.
- This study included only girl students and female teachers of Tribhuvan University.
- This study was conducted only in the Mathematics subject at the University level.
- This study was delimited to Kathmandu valley.

Operational Definition of Key Terms

Classroom. The formal study of mathematics teaching and mathematics learning room of the academic year 2076/077.

Engagement. Time engagement is described as attending the mathematics classroom regularly, interacting with an instructor in the classroom, interacting with peers, and doing class work and homework during mathematics period. The measure of a student's level of interaction with others, plus the quantity of involvement in and quality of effort directed toward activities that lead to persistence and completion

Girls. In this study, girl is defined as girls of M. Ed. who are studying in mathematics education.

Mathematics. The abstract science of number, quantity, and space. Central department of mathematics education

Promoting. Encouraging girls to study mathematics, encouraging them that they too can read, and creating a girls-friendly environment to work in group work and others.

University. An educational institution designed for instruction, examination, or both, of students in many branches of advanced learning, conferring degrees in various faculties, and often embodying colleges and similar institutions.

ChapterII

REVIEW OF RELATED LITERATURE

An additional source of study for the research work is a review of related literature. The researcher's research must take into account the review of relevant literature since it provides guidance and support for achieving the study's theoretical objectives. The literature is rich with information and helps in choosing a suitable research question. To find out what has been done in the field of research is the main objective of a review of related literature. Providing a general overview of the study project and preventing inadvertent duplication, helps in the methodical conduct of new research. By studying similar studies, researchers can determine which methodologies have been proven successful and which appear less promising. I, therefore, reviewed the following theoretical and empirical data.

Empirical Literature

My thesis' course is decided by the multidisciplinary field of research known as the empirical study of literature. Although effective research must be founded on prior knowledge, this technique helps to avoid duplicating previous work and generates useful suggestions for more research. This study reviewed a variety of forms of literature, which served to identify the idea for the study and also provided guidance for how to analyze and interpret the data using this assumption. The following associated articles were explored:

Devkota (2017) Devkota did a research on the topic "Participation of girls in mathematics." This thesis focuses on the participation of girls in mathematics at the secondary level. Devkota conducted research based on two objectives: one to find out the participation of girls in mathematics at the secondary level, and another to suggest possible remedies to increase girls' participation in mathematics at the secondary

level. She used a quantitative research design; this study included girl students in grade IX of the Gorkha district. The researcher found that factors like a teacher's learning process, home environment, school environment, self-interest in mathematics, and social variables influence the participation of girls in mathematics. Finally, it is concluded that girls are equally capable and should be provided with equal opportunities to learn mathematics at home and in school. This thesis helped me explore the strategies that increase girls' engagement in mathematics learning at a higher level.

Pokharel (2011) conducted his thesis on the topic "Girls' Participation in learning mathematics at the secondary level". The objective of this study was to identify the girls' participation in learning compulsory mathematics among thami girls at the secondary level and to find out the cause of the low participation of girls in learning compulsory mathematics at the secondary level. Only six thami girls from Kalika Higher Secondary in Chemawati VDC and Dolakha district were chosen for the study as reason responders. To obtain primary data for this study, a semi-structured interview schedule and observation form was used. To ensure the authenticity of the data, triangulation was employed, and theme categorization was used to examine the acquired data. The study's key finding is that thami girls' involvement in compulsory math was poor, owing to language barriers, poverty, illiterate parents, gender discrimination, and dominated conduct by thami pupils. As a result of the findings, it is stated that the majority of the thami girls' pupils were compelled to drop out of school due to linguistic differences at home and school, cultural discrimination, a male-dominated society, poverty, and illiterate parents. As a result, the thami girls have no time to learn mathematics at home.

Nepali (2022) did research on “Promoting Girls in Learning Mathematics: A Case Study” to determine two objectives that explored the factors that affect girls' achievement in mathematics and next identify the strategies taken by the school for improving the girls’ achievement in mathematics. It’s based on qualitative research design. This study was on one secondary school in Lamjung district. In-Depth interviews, classroom observation, and document reviews were used as tools for data collection.

According to these studies, although girls spend the majority of their time helping with home tasks, they don't have enough time to practice math. Our culture held a variety of values. Sons and daughters have various responsibilities that are distinct from one another. While boys worked outside the home, daughters were consumed with household tasks and were unable to attend school. Girls feared taking math classes. Parents with higher levels of education took their children’s education than uneducated parents. Most people in society did not know the importance of mathematics so mathematics was valueless in society. Besides that in society people said that there was no value to teach girls because girls handle their family s so they must know knowledge about household works knowledge strong point shows the difference between girls and boys in learning mathematics. Parents' perspectives on males' and girls' communication between the teacher and the students, the key elements influencing gender inequality in mathematics learning are the learning environments for boys and girls at home and school.

Chaudhary (2022), did a study topic “Classroom participation of Tharu girls in secondary level mathematics.” This study attempted a case study of qualitative research design to explore of classroom participation of Tharu girls in mathematics education at the higher level of Bardiya district. The researcher determined two

objectives explore the Tharu girl's participation in learning mathematics at the secondary level and examine the influencing factors of less participation of Tharu girls in learning mathematics. The researcher selected eight Tharu girls' students studying at a higher secondary level as a sample. The information was taken by interview schedule and observation form. This study shows that girls in mathematics are low than boys.

Mandal (2021), did a study topic "Girls low interest in higher level learning mathematics." The research design of this study was qualitative. The main objective of this research was to find out the reason for the low participation of girls in higher mathematics courses and to find out the ways to increase the participation of girls in higher mathematics courses. The population of the study was all the girls' students of grade XI and XII of the one secondary school in the Saptari district. The conclusion of this study was both the female mathematics students and the female math professors in the survey concurred that several factors contribute to the low level of female engagement in high-level mathematics. The results show that girls' lack of interest in higher-level mathematics is caused by a variety of factors, including a perception of the subject's difficulty, a lack of self-confidence, anxiety, unfavorable teacher attitudes, unfavorable stereotypes about girls' math abilities, a cultural belief that mathematics is a male domain, and ignorance of what mathematics careers entail. Parents and teachers should boost girls' confidence in their math skills, create a good classroom environment that fosters interest and curiosity in mathematics, expose girls to female role models who have excelled in mathematics, and provide information, advice, and guidance on how to pursue higher-level mathematics to encourage girls to do so.

Luitel (2019) has a study topic “Participation of students in the mathematics classroom.” The researcher attempted this case study to explore the participation of low achiever students and high achiever students in a mathematics classroom in the school of Tarkeshor municipality in Kathmandu district. The purposive sampling method was used to select the sample. The objective of this study was to explore the participation of low-achiever and high-achiever students in the mathematics classroom and to analyze how girls and boys interact in the mathematics classroom. The researcher selected a sample of four students studying at the secondary level. The required information was taken by interview schedule, and observation notes and tried to find out the real field data. He concluded from his research that girls’ students have less interacted with teachers and peers than boys’ students was the conclusion of this study.

Rupakheti (2017) did a study on "girls' participation in mathematics at the University level". The main objectives of his study were to investigate the causes of low female engagement in mathematics at the university level and to determine how sociocultural factors influence female participation in higher-level mathematics education. This study is based on a qualitative research design, and an auto-ethnography methodology was utilized to investigate the many realities through an interview, observation, and research tools. Purposive sampling was used to choose one university campus from the Kathmandu district and five students from the B.Ed. and M.Ed. programs. This study also included two mathematics instructors as participants. He discovered that the girls' students have much difficulty learning mathematics after analyzing the data. The key reasons for girls' limited involvement in mathematics at the university level were early marriage, parental belief system, the public image of mathematics, traditional teaching-learning activities, family

socioeconomic situation, and prejudice in the classroom. It was determined that mathematics teaching and learning methods. It was concluded that mathematics teaching and learning approaches from schooling are not good. Existing school mathematics teaching-learning practices seem to fail to address the social and cultural needs of the students.

Janwali (2007) did research on "Causes that Affect the Mathematics Achievement of Girl Students" to determine the correlation between affecting factors and mathematical achievement. In this study, the researcher used the survey approach. Convenience sampling from the Rupandehi district was used to choose the sample for the study. The researcher chose 25 sample children from various schools in various districts, both rural and urban, for their study. In this study, a single set of questionnaires was created, and a three-point scale for rating respondents was created to help gather the necessary data that was then used with students. According to this study, effective classroom teaching techniques including a planned setting, less than eleven instructional materials used, and suitability to teaching engagement in discussion, and activity had a significant favorable impact on female students' countable achievement. The study concludes that better classroom instruction is necessary to raise girls' pupils' arithmetic achievement. The instructor's behavior and family history are also having a positive impact, allowing the teacher and parents to share responsibility for the girls' pupils' schoolwork, foster a healthy learning environment at home, and raise the math proficiency of female students.

Giri (2016) did research on her thesis topic, "Factors affecting girls' participation at higher secondary level mathematics in Doti district", with the following three goals: the percentage of girls who participate, the reasons why there are so few women in mathematics at the university level, and a study of the most

important component. The findings indicate that extremely few girls participate in mathematics. The consensus in society was that women were less adept in mathematics than men. This study demonstrates since the majority of the six characteristics that were recognized as influencing variables for girls' interest in mathematics are those six. They are the following: social variable, temporal variable, teaching-learning process, attitude toward mathematics, and home and school environments. The researcher concluded that, out of the nine variables, the social variable has the greatest impact on female engagement in mathematics.

CERID (1996) in its report "The Education of Girls in Nepal" demonstrated to parents the reasons why their daughters were not permitted to attend school due to their gender. Due to social discrimination, a lack of resources, and family obligations requiring child work, girls in secondary school frequently drop out or are not sent to school. Typically, girls are employed to perform domestic duties including fetching water, collecting firewood, cooking, washing, and cleaning, looking after children, and preparing land for planting and harvesting. The majority of dropouts came from farming households. The necessity to work was one of the main reasons why students left school early, and it was noticed that there was an odd inverse link between household income and early school departure. Additionally, there was a strong negative relationship between early school withdrawals and family size.
Nepal's Constitution (Dhara-38), every woman has equal lineage rights without gender discrimination. No woman shall be subjected to any form of violence or exploitation on grounds of religion, social, cultural tradition, practice, or any other ground.

Women shall have the right to obtain special opportunities in education. Women shall have the right to participate in all bodies of the state based on the

principle of proportional inclusion. The Nepalese construction and laws practice increasing the number of women in the field of education and other sectors.

Pandey (2007) did research titled "Factors influencing mathematics achievement: a case study of an ineffective secondary school in Kailali district. According to this study, one of the contributing factors to low mathematics achievement in secondary schools, which resulted in low mathematics accomplishment, was girls' involvement in household responsibilities. They were given less time for their math homework. Motivation has a significant impact on a student's ability to learn mathematics, and prior knowledge and current knowledge attainment are closely associated. The more diligently a student studies and works at home, the better their chances are of succeeding in their mathematics studies.

Sapkota (2015) focuses on the study as a "Factor affecting the learning mathematics of girls". This was a survey-style study that attempted to investigate the elements influencing mathematics learning. Ten government schools were chosen at random from all public schools in the Kailali district, including those in rural and urban areas, for this study. One set of opinion scales was produced and sent to the students to determine the effect of the teaching-learning process, home environment, social variable, time variable, and school environment on the learning mathematics of female students. Concerning these aspects, unstructured interviews were conducted with girls' pupils, parents, and mathematics teachers from the individual sample school. Literature in this field.

NASA report (2018) According to the study, just 5% of the mathematics curriculum was completed by 32 out of 100 students, and only 28% of the mathematics curriculum was completed by students at the basic level (level 1, or around 40% of students). In mathematics, more than 70% of pupils scored only below

28% of the tested curriculum, demonstrating that a significant portion of students struggles with this subject. Students at the proficient level (level 2, 24%) completed 62% of the curriculum under exam, while those at the advanced level (level 3, 4%) completed 96% of the content under test. Only 28% of the kids appear to have the necessary knowledge and skills for the math program. The gap in the achievement of the curriculum between below-basic-level (5%) and advanced-level students (96%) is 91%, indicating remarkably high inequality in the classroom. According to this report, girls' achievement in mathematics is lower than in other subjects, and their interest in the further study is low. The curriculum achievement gap between students performing at the basic level (5%) and advanced level (96%) is 91%, indicating a startlingly high level of inequality in the classroom. This study found that girls performed less well in mathematics than they did in other subjects and showed little interest in continuing their education.

This study found that the engagement of girls in family duties was one of the contributing factors to low mathematics achievement in subpar secondary schools, which led to low mathematics achievement. Less time was available for them to finish their arithmetic homework. The relationship between prior knowledge and present knowledge achievement is strong, and a student's motivation has a big impact on how well they learn math. The greater a student's prospects are of success in mathematics, the more they study and put effort into it at home.

Research gap.A research gap is a founder that has not been addressed or answered in previous studies in the form of books, journal articles, or reports.

In thearticle that I have read so far, I found the reasons why girls are less involved in mathematics, but how can the participation of girls in mathematics be increased? What strategies can be advised? I did not find such articles; this is the

research gap in my thesis. Many researchers found that to dig out the problems faced by girls while learning mathematics, they needed to identify some of the factors that can affect the participation of girls in mathematics at the secondary level, but this objective to promote the strategies that increase girls' involvement in mathematics learning at the higher level was something I couldn't find, so that it's my research gap.

Theoretical Review

A theoretical discussion is needed for the interaction of the finding of the study. Theories provide an important base for understanding and interpreting the realities that come up during the research process. The theories that I adopt in my study.

Feminist theory. Feminist philosophy as an academic discipline did not emerge until the seventies in the United States, Europe, and Australia, but this doesn't mean there were no feminist philosophers until then- far from it! There have been women, philosophers, since the eighteenth century, and they have made significant contributions to feminist philosophy today**.** Among various feminist perspectives, I have adopted liberal feminism for my study. Liberal feminists' major belief is that everyone has a right to equality and freedom of choice.

Liberal feminism was the earliest form of feminist theory. This category includes a variety of feminist viewpoints, but they are all united by a commitment to the autonomy and equality of women. Liberal feminists' core tenet is that everyone has a right to equality and freedom of choice. Liberal feminists fight to modify restrictive legislation and remove obstacles to women's advancement in the workplace and the public realm as a means of achieving this goal. Liberal feminist feminists who identify as feminists investigate the principles that underpin political inequality and

consider change agents. This theory was employed in my study to determine the position of women and the social norms surrounding girls' education in society.

According to Nepali (2022), the feminist perspective arose from a discontent with sociological theories and the oppression of women in various fields. Women's engagement in education and employment has been influenced by the prevalent belief that they are cognitively and physically unable in comparison to males. Feminists want to create ideas that address challenges in women's development and define their role in developmental activities.

The results of feminism for female education Improvement in education as a whole for both males and females. Because education is now seen as more important, girls get better educated.This theory was supported to find out the women`s status and social belief of girls' education in patriarchal society which was used in my study.

Conceptual Framework

A conceptual framework is an analytical tool with many modifications and settings. It is employed to classify concepts and arrange ideas. This study explores the strategies for promoting girls' engagement in mathematics learning in the classroom. The primary determinants of a girls' engagement in math classes include attendance, completion of required work, engagement in extracurricular activities, interaction with peers, using ICT tools, and group interaction. The following will be provided as the study's conceptual framework:

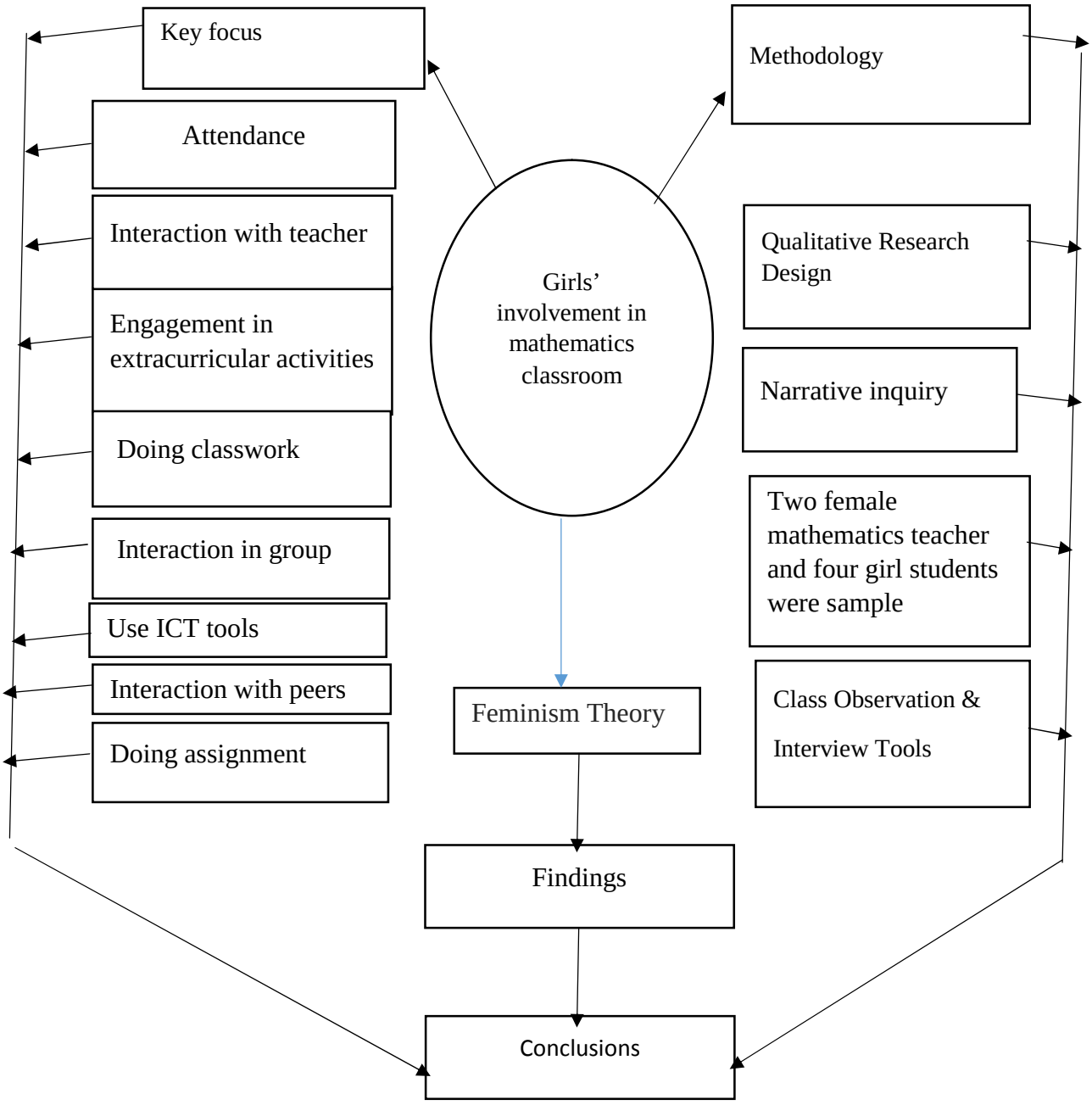

Figure 2.1 *Girls' Engagement in mathematics classroom*

In the above Farm work, on the left side, I have placed the key focus, Attendance, interaction with the teacher, engaging in extracurricular activities, doing class work, Interaction in the group using TCT to Interaction with peers, and doing the assignment. On the right side of the conceptual framework is the methodology in which qualitative research design is based on narrative inquiry. Two girl students and

two female mathematics teachers have been taken to complete this study. Findings and conclusions from the results are included using class observation and intervention tools. I have looked at the study from feminist theory. Similarly, a conceptual framework has been prepared to keep finding and conclusion

Research aims to determine the level of female engagement in math classes at the master's level. Like: interaction with the Teacher, peer interaction, classwork, group ICT collaboration, tools, assignment completion, extracurricular activity participation, etc. For the first objective, I observed classes; for the second, I followed interview guidelines.

ChapterIII

METHODS AND PROCEDURES

This chapter includes the research design, sample, sampling procedures, source of data, tools for data collection, data collection procedures, data analysis, and interpretation procedures. This chapter presents the procedure of the study, which will be used to achieve the objectives of the problem. The following method and procedure will be used to fulfill the above-mentioned objectives:

Qualitative Research Design with Narrative Inquiry

This study was based on a narrative inquiry research design. Narrative inquiry is an approach to qualitative research that focuses on the commonality of a story within a particular group. Humans are storytelling organisms who, individually or in collectivity, lead storied lives. Thus, the story of a narrative is the study of the ways humans experience the world (Clandinin, 2000). So, I used the qualitative research designer.

My Research design of the study was narrative inquiry because, the interviewer from narrative inquiry about his experience, story-problem, and as an eyewitness since the data is given, and the data is valid. It is easy in getting people to tell their stories, it gains in-depth data, participants are willing to reveal self and account reflection, the revelation of truth, and the provision of a voice for participants. My research was focused on Tribhuvan University's central department of Mathematics Education. This research has covered the master level in T.U. It included the experience of girls in mathematics education and also included the experiences of the researcher's self.

Study Site

I havechosen area of study was central department of mathematics Tribhuvan University Kirtipu. I have completed my studies by selecting two female mathematics teacher and four girls mathematics learning student. I have prepared the observation form for the students of the academic year 2076/77 who are studying in the 4th Semester. Currently studying 4th Semester I have interviewed two girls' students and passed out two students and female mathematics teachers.

Participants of the Study

The sample of this study was all mathematics girls studying master's level at Tribhuvan University. Four girls' mathematic learning students and two female mathematics teachers Central Department of Education Kirtipur were sample for this study. The sample has been taken from Tribhuvan University which were female teachers and female students.

For the sample of study two female teachers, two pass-out students and two studying students have been selected for the study because it is easy to give suggestions on how to increase the engagement of women in the mathematics classroom by understanding the experience of women from female teachers. In the same way, for the female students, what is the mathematics classroom like mathematics for women easy to read, and how to increase the participation of women what are the suggestions? Because, I have gotten various information from my study participates.

Sampling Procedures

Purposive sampling is a sampling procedure for this study. Purposive sampling was a good way for sampling procedures. The purposive sample selected method was the method of selecting a sample at one discretion to fulfill the purpose that the

researcher is researching. It is also called judgment sampling because the researcher decides how to select a sample on the basis that he/she can get relevant and authentic information while selecting the unit (Tripathi, 1987).

I have taken purposive sampling to complete my study Because, since this was a study that looks at the engagement of women only and suggests increasing the engagement of women, it is better to choose a sample from purposive sampling

Source of information

The researcher used primary and secondary sources of data for the study. The primary sources of data were gathering M.Ed. female students and teachers at Tribhuvan University and observation of girls' engagement in Tribhuvan University College. Secondary sources of data were the studies of books, articles, data collect of students record etc.

To complete my study, I observed the fourth semester which is being conducted here for 10 days, and also asked to show the record of the students since the semester startedfor BaikunthaMarjhan sir. Collected data from Primary and Secondary Sources by arranging face-to-face interviews to find out what would be good to increase the engagement of female.

Tools for information Collection

For collecting the required data for this study, classroom observation forms and interview schedules were used as a tool. These tools are used to identify the engagement of girls in learning mathematics and to suggest girls increase their learning of mathematics.

Classroom Observation Form: The observation in this study was conducted in a M.Ed. mathematics classroom during a mathematics lesson studying. These tools

are used to identify the engagement of girls in learning mathematics. The classroom observation form was given in appendix-A.

Interview Guideline: These tools are used to suggest girls increase their learning of mathematics. The interview schedule of female teachers in M.Ed. is given an appendix-B, and for girls' students is given an appendix-C

Classroom observation form. For the first objective of this study, classroom observations (Appendix-A), I observed and noticed gender differences in the appearances, behaviors, and attitudes of girls while learning mathematics indicate of actions like asking and answering questions,Interacting with peers, completing assignments on time, taking the lead, and having a confident presentation style. The researcher was also able to overhear the girls' group work talks regularly, such as identifying the cooperative gender independent of others in the group, such as in a group project, or having a competing debate. Observed student actions, behavior, and conduct in lessons class engagement indicators were constructed and expressed as more, less, or equal occurrences in both boys and girls during the arithmetic session when pupils raise their hands, for example, when the teacher asks a question, the observer counts how many hands the boys and girls raise. Before the conclusion, the recorded data goes on to provide more detail regarding which gender raised more or fewer hands than the other. In the observational method, the observer determines whether girls' engages more or less by counting how much more, less, or equally each gender is.

Interview guideline. Interviews with the six participants related to the mathematics study were used to gather qualitative data. Following the interviews, the audio recordings were transcribed into English and translated from Nepali. The key

concepts and ideas in the data were coded after they had thoroughly understood their meanings and relevance to the main research objectives.

I have prepared an interview guideline (Appendix- B) to complete the thesis. I prepared separate questions for female teachers, and female students and interviewed them. I have suggested increasing the engagement of girls' in mathematics by observing the suggestions and opinions of others.

Information Collection Procedure

The data collection was done using multiple methods and from multiple sources. The researcher will build rapport with selected students and teachers. It involved classroom observation and interviews. The researcher was observed list to record the daily classroom occurrences and actions of the learners as they were involved in a mathematics classroom and for the second objective, I made an interview guideline. A variety of techniques and sources were used to acquire the data. It involved structured interviews and classroom observation. A significant portion of the data was mostly based on classroom observation. The researcher used an observation list to keep track of the student's engagement in a math session as well as their 10 days of classroom activities. I recorded every bit of information related to the study topic during the face-to-face interview using an audio recorder.

Quality Standards

Be all, qualitative research aims to document various purposes and meanings assigned to events and situations. To gather information about the girls'engagement in the mathematics classroom, I co-constructed stories while life observing the classroom. To retain trust, I translated the field writings without altering their meanings. The data. Reliability explains consistency. The criteria of reliability and validity are truth value and consistency.

Credibility. I gathered accurate information about how girls perceive and engagement in mathematics classes from my participants. In doing so, I gathered unique information from individuals and presented their unique perspectives. To keep my study's credibility, I used participant observation, peer debriefing, and prolonged involvement in the field. To tell stories based on actual classroom observations, I employed the credibility quality criterion.

Transferability. Generalizability and external validity are synonyms for transferability. This criterion is concerned with how easily the results can be transferred to different settings or contexts than the one in which the study was conducted. A qualitative researcher who employs the thick description technique provides depth review of the observations collected while gathering data. A qualitative researcher establishes a clear link between the cultural and social dimensions of data collection. To maintain transferability, I provided a brief explanation of female engagement in mathematics among students. I attempted to capture the essence of the situation through observation, interviews, and meaning-making.

Dependability. Together with my participants, I conducted fieldwork and shared my findings. I spent about three months working in the field. For dependability, I also maintained consistency in my research and procedures.

Conformability. Its focus was on establishing those conclusions that were rationally obtained from the facts while analyzing the findings. Additionally, the writing interior consistency influenced the way it was received. I kept my writing clear in my study as a result. In this study, the personalized writing style was employed. There is the argument that researchers entered the field of study with preconceived ideas, biases, and values. I used actual real data gathered through

structured interviews, classroom observation, and audits to maintain conformability.This was true for this study because I went into it with my viewpoint and biases. Therefore, the following standards had to be used to evaluate this study:

Ethical Issues

Persons are the main sources of qualitative research. Ethical issues are important to adhere to ethical norms in research. First, norms promote the aims of the research, such as knowledge, truth, and avoidance of error.

- All information about the study has been provided to the participant.
- It has ensured that the health or mental condition of the person is not harmed.
- The person has kept all the information related to her confidential according to her choice.
- Do not falsify anything related to studies.
- Participants were allowed to withdraw from the study midway.

Data Analysis and Interpretation Procedures

I have used a general inductive approach (Thomas, 2006) for data analysis. It does provide a simple, straightforward approach for deriving findings linked to focus evaluation questions.

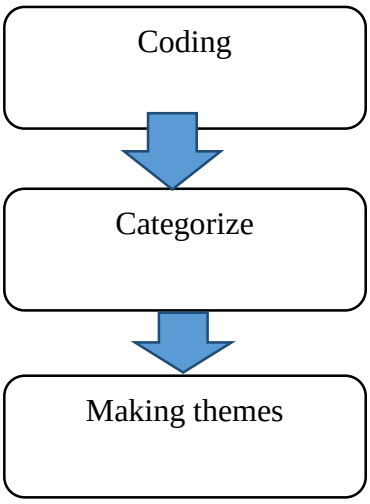

Figure: 3.1

In this study data analysis have done concurrently by classroom observation as well as an interview technique. Directly class observation for the activities of girls' engagement in mathematics class, led others in group work, completing class assignments on time, Likes to work in pairs, Ask questions most were the sources of data analysis.

Data analysis for this study was carried out simultaneously using interview and classroom observation techniques. Following 10 days observation period, the researcher used words like "greater," "less," and "equal" to define the variables relating to the level of involvement in terms of male and female The significance of the respondent's values, experience, opinions, and conduct were interpreted from the examined themes following the theories used to interpret the data gained through the interview approach and react to the research questions. To support this research, the researcher's mathematics student included her own experiences with each theme and classroom activity.

ChapterIV

ANALYSIS AND INTERPRETATION OF DATA

Data analysis involves reducing and organizing the data, synthesizing, searching for significant patterns, and discovering what is important. The study's main objectives are to exploregirls' engagement in mathematics classroom and to explore the strategies for promoting girls' engagement in mathematics learning. The analysis and interpretation of the data gathered from the focus of this chapter. Classroom observation and interviews to collect data for this study, the researcher used a variety of tools. The classroom had direct observation of students' classroom behavior that was closely scrutinized. To evaluate the behavior of the students and the conditions at home and school, the researcher used interviewing guidelines. The researcher interviewed a few female math students and female mathematics teachers to learn more about their struggles and experiences.

Section A: Girls' Engagement in Mathematics Classroom

To complete my thesis, I have pursued two objectives. The first objective is to the engagement of girls in mathematics classroom.

I observed, a lot of differences in that class after observation. Out of 14 regular students, 4 were girls. Most of the girls used to bring books, but not all of the boys had books. During my observation, 10 people used to interact with the teacher a lot, out of which 3 were girls and others were boys. Similarly, girls' engagement in group interaction was less than that of boys. Girls to work together and peers interaction more than boys, but they did not like to be leaders, only boys lead. It was seen that girls asked others to work while boys did it by themselves. Boys used to spend a little more time than girls doing class work and finishing on time, similarly, boys were the first in assignments. The boys were afraid to questions the teacher, girls did not

question, but a few boys used to question the teacher from time to time. During the presentation, you could see that the girls were afraid of the content knowledge, while the boys seemed to have confidence compared to the girls. The number of people who used ICT during the presentation was less, and the number of girls was less. Girls did not comment on their friend's presentation while boys did. Boys preferred to participate in other activities like programming in class, playing games, etc., but fewer girls were found to be interested in extracurricular activities. Finally, the summary of the result from the classroom observation as the following table:

Table 4.1: *Observation form*

Class Participation Indicates	Girls	Boys
Regular attendance	4 out of 14	10 out of 14
Has textbook	Every girl students has textbook	Some boy students has not textbook
Use share textbook	Several girls	Some boys
Interaction with teacher	3 out of 10	7 out of 10
Interaction in group	Less than boys	Greater than girls
Interaction with peers	Greater than boys	Less than girls
Lead other in group	No one	3 boys
Work independently	Less than boys	Greater than girls
Complete class work at time	5 out of 12	7 out of 12
Complete assignment at time	5 out of 17	12 out of 17
Ask question to teacher	No one	3
Presentation confidence	Less confidence but, content knowledge was good	Greater confidence, continent knowledge is good
Use ICT tools	3 out 10	7 out of 10
Comment for friend presentation	No	Boys comment of friend
Involvement in extra-curricular activities	Comparatively low	Comparatively high

I have analyzed seven topics as main themes from observation and my own experience. The analysis and interpretation of the obtained data are presented under the following themes:

- Classroom Attendance
- Doing Class Work
- Doing Assignment
- Interaction with Teacher
- Using ICT Tools While Presentation
- Interaction with Peers
- Engagement in Extra-curricular Activities

Attendance.I observed the 4th-semester classes of the academic year 2076/77 for 10 days, from which I got the following result:

Table 4.2: *Attendance of the 4th semester students*

Observation Days	Girls present	Boys present	Present students %	
	Total girls (7)	Total boys (15)	Girls %	Boys%
1	6	11	86	73
2	5	12	71	80
3	6	10	86	66
4	4	13	57	87
5	7	14	100	93
6	5	12	71	80
7	5	9	71	60
8	3	11	42	73
9	6	13	86	87
10	6	13	86	87

From the above form, there is a difference in the attendance of girls and boys in the observation of 10 days. From the observation, on 3 days out of 10 days, the present ratio of girls is low, while the present of boys is high than girls. The number of girls was less in attendance.

Doing class work. It was observed that there were fewer girls in all grades throughout the observation period than there were boys. When the teacher handed out classwork to the students, everyone was engaged. Boys have greater self-assurance when participating in class compared to girls in terms of labor. Despite having an understanding of the issue, the majority of the females lacked confidence in their ability to solve it. The girls would frequently ask the lads for assistance in solving their problems. When checking their work with the teacher, boys were always the first. The student's class work was the following result:

Table 4.3: *Observation form*

Observation Days	Girls Doing classwork and shows to teacher	Boys Doing class work and show to teacher	Did not show to teacher	
	Total girls (7)	Total boys (15)	Girls	Boys
1	2	6	4	5
2		That day no classwork		
3	3	3	3	7
4	0	5	4	8
5		That day no classwork		
6	2	3	3	9
7	3	6	2	3
8		That day no classwork		
9	3	8	3	5
10	4	7	2	5

While doing classwork, girls are afraid to explain to the teacher that the work they have done is not acceptable. Girls do practice, but the confidence in the work done can be found to be less because, even though the girls completed the work after asking their friends, the observation of the sight shows only after the boys show it.

Looking at the number of girls participating in classwork, it was found that they were more afraid than boys.

Doing assignment. The semester system includes grades for assignments. All of the students completed their assignments on time throughout the observation period, it was observed. After observing for 10 days, the girls discussed with their friends only to complete the assignment given and found that the boys were serious about it, while the girls were not so serious about that task.

Interaction with teacher. It can be seen from the observation that girls question and discuss with the teacher less than boys. Girls are afraid to ask questions of the teacher; they don't try to discuss things because they are confused. In more, boys are seen conversing with the teacher. In my experience, girls find it easier to discuss issues with their peers than with their teachers. Interaction with a teacher was the flowing-

Table 4.4: *Observation form*

Observation Days	Girls interaction with teacher Total girls (7)	Boys interaction with teacher Total boys (15)	They did not interact with teacher Girls	 Boys
1	2	3	4	8
2	1	7	4	5
3	2	6	4	4
4	0	7	4	6
5	3	7	4	7
6	2	3	3	9
7	0	2	5	7
8	1	4	2	7
9	2	5	4	8
10	2	4	4	8

According to my experience and from observation, more men are seen in front than girls. When girls ask questions, they are afraid of what others will say, that the question may not be understood, so the intersection with the teacher is very little girls' involvement

Using ICT tools while the presentation. While observing the mathematics classroom, Ram Chandra sir made the students do Teaching Practice. Students should use Teaching practice and Teaching material.

It was also seen that multimedia was used as well. Similarly, on the first day of observation, two boys and two girls gave a presentation, and one girl and two boys used ICT tools during the presentation. No one used the ICT tool in the presentation on the second day. On the third day of observation, there was only a presentation of girls, and two girls used ICT. On the fourth day, there was only a presentation of boys, and three boys used ICT. After ten days of observation, the number of girls using ICT was 3 while the number of boys was 7.

Nowadays, the development of education is also seen in connection with technology. During the 10-day observation, it was observed that both boys and girls used ICT, but the students used ICT tools less. Comparatively, girls used them less than boys.

Interaction with peers. During the observation, boys' students were seen sitting scattered in the classroom while girl students were sitting in one place. Girls used to discuss with their friends, they also preferred to give presentations to their peers. When the teacher asked questions, they used to discuss and answer among themselves, but the boys did not discuss much, they answered the questions asked by the teacher only what they knew. After finishing the study in the classroom, the girls were busy with discussions, sometimes they were discussing studies and sometimes other things.

From observation, it was found that girls had more interaction with girls than with boys. Girls share assignments and share their happiness and sorrow with their

friends and ask their friends while doing class work and homework, but boys were less likely to share with their work friends.

Engagement in extra-curricular activities. Involvement in extracurricular activities and future attitudes have been reported to differ by gender. Examined extracurricular activity participation around the globe in their study Larson and Verma (1999) reported that while males and females did not differ in the amount of time available for these activities in industrialized and non-industrialized countries, respectively, it was found that men had more time to engage in leisure activities than women in non-industrial countries.

There weren't any additional extracurricular activities in the mathematics class, according to the observation of the class. Discussions with teachers regarding topics not covered in class, classroom directing, planning, and managing events like welcome programs, festival celebration programs, and departure programs. I discovered that girls were quiet in extracurricular activities. With the assistance of the boy pupils, just one and two girls participated. Therefore, girls had a low level of extracurricular activity participation.

From the observation that was analyzed and interpreted in the manner described above, girls showed much lower engagement in mathematics learning than males. It was also shown that the classroom environment, including Girls' engagement in learning mathematics, is influenced by a variety of factors, including the teacher's behavior, the materials' availability, the interaction between students and teachers, students and boys, the girls' engagement in group projects, presentations, and extracurricular activities, and their interest. I argued that girls' involvement and success in mathematics reflect their nature at higher levels.

From the feminist theory, review, and other findings, I claimed that the engagement of girls in mathematics depends on their nature at a higher level. Similar to this, a girls' behavior, circle of friends, confidence level, the attitude of the teacher, instructional strategy, teaching environment, teaching materials, etc., play an important role in promoting girls to engage in mathematics learning (Ghimire, 2019).

Section B: Promoting Strategies for Girls' Increasing Engagement in Mathematics Classroom

This section discusses the strategies that increase girls' engagement in mathematics learning at a higher level. I have an interview guideline to complete my thesis. I have prepared separate questions for female teachers and girls' students and interviewed them. I have suggested increasing the participation of women in mathematics by observing the suggestions and opinions of others.

Interviews with the six participants related to the mathematics study were used to gather qualitative data. The interviews and the audio recordings were transcribed into English and translated from Nepali. The key concepts and ideas in the data were coded after they had thoroughly understood their meanings and relevance to the main research objectives.

Interview guideline female teacher and four female students two students in which the teacher teaches at the university level two students are currently studying in the fourth semester two students have completed their studies for the interview. I have prepared the questions and taken the interview which is now. I put the fictitious name (Paru Share, Rupa, Basu, Ganu, and Usha) instead of the real name. Mainly I divided two parts classroom environment and home environment for the interview.

Making equitable classroom. Ensuring equally high outcomes for all participants in our educational system. How to promote the engagement of girls in the

classroom, how to make the class equitable, the girl students and female teachers answered the questions like this.

> ***Part*** *Incensement compared to earlier after the implementation of the Semester in recent times can be seen. Still, girts are not seen as 100% participants due to household responsibilities and various reasons. There is a gap to increase engagement, but the main thing to fulfill the gap is to increase participation by making positive behavior toward girls from the family to the university. It does not mean that women are not doing class work. The main role of the teacher is in this. The positive response is that even if the teacher made a mistake somewhere, there is a mistake and it should be corrected Girls' in-class work every day can increase group work is a complex task and it is not as easy as working alone. The problem with that is that friends don't share ideas, and it becomes difficult to contact them from time to time. It is difficult for women if they do not have a comfortable environment. Therefore, group work is done by separating close friends or by making girls and boys equal. We girls tend to hesitate a little, that's why if the teacher is friendly if the teacher is so angry today if you encourage that something has been improved, the students will also present without fear. When we are studying from the first to fourth semester, it is not seen that we engage in extra-curricular activities, so if we engage in internal assessment, girls can be increased in it.*

From the above information of my participant, I came to that. After Semester was implemented, there was a recent increase in anger compared to earlier. Nevertheless, because of their domestic duties and other factors, girls are not considered to be fully participating in society. Parents' perspectives on male and girls'

communication between the teacher and the students, the key elements influencing gender inequality in mathematics learning are the learning environments for boys and girls at home and school (Nepali, 2022). There is a gap that needs to be filled in terms of engagement, but the key is to do it through modeling healthy behavior for girls from home to university. It doesn't imply that women aren't completing their coursework. Here, the teacher's primary responsibility is the positive reaction that, even though the instructor made a mistake, it is still a mistake and has to be fixed. Group work is a challenging assignment that is harder than working alone for girls in class every day.If you offer encouragement that something has been improved. This is because we girls tend to hesitate a bit.

> **Share** *When talking about attendance, we have to follow the university's own rules and discipline. Now, one cannot be involved in the exam without 80% attendance, this is the rule of the university. The same rule has controlled the problem of girls being absent and boys being present. If there are absent students, they should be informed that their attendance has not been recorded, either you come regularly or you will not be able to give the exam. First, only boys who don't speak in girl classes used to not show their actions to the teacher, but these days it seems to be less. Girls are saying that I do it too. They say that we also have to present. Who still wants to withdraw? For such girl students, giving a by-force role to single or peers, if it is an investment you have to do it. Girls' involvement can be increased in the presentation of girls. If there are three people, they can work together, so that in a group of six, there will be three girls and three boys, increasing the participation of girls. Additionally, you should interact with the instructor. Even if the instructor is ineffective, providing constructive criticism will help the students*

do better the following time. To increase girls' engagement in extracurricular activities, they can be made more involved by separating quotas.

From the above information of my participant, it concluded that now, anyone cannot be involved in the exam without 80% attendance, this is the rule of the university. If there are absent students, they should be informed that their attendance has not been recorded, either you come regularly or you will not be able to give the exam. Boys were initially the only ones who withhold their behaviors from the teacher in girl classes, but this seems to be less common now. Girls claim that I too engage in it. They claim that we must present as well. Who still desires to abstain? If it is an engagement that you must make, give a by-force position to a single person or a group of peers for such girl students. Girls' engagement in the representation of girls can be increased.

Rupa *To increase the presence of women, a women-friendly environment should be created in the classroom. Likewise, when asking questions, focus on the boys and not only look at their answers, but also give feedback to the girls by looking at their class work, and maintaining enthusiasm. Attention should be given to girls, if they do not do classwork, if attention is paid, the participation of women in classwork can be increased. They do not like to be involved in a group because they do not agree with their friends to work in a group. To increase the participation of girls, if there is a group of equal friends, if there are 8 people, they can work together, like in a group of 8, 4 girls and 4 boys will be formed. You should also communicate with the teacher and even if the teacher is bad, if feedback is given to improve next time, the girls will have confidence during the presentation. Girl's oriented programs should be conducted in extracurricular Activities*

From the above information of my participant, I came that, an environment that is welcoming to women should be established in the classroom (Mandal, 2021) to increase the number of female students. Similarly, while posing a question, keep your attention on the boys and pay attention to both their responses and their classwork while simultaneously being joyful and providing feedback to the girls. The engagement of girls in classwork might be promoted if the focus is given to them if they do not complete their assigned tasks. They do not want to be a part of the group since they do not agree with their friends that they should participate. Increasing the number of girls engaging.

> **Ganu** *College should conduct classes at a suitable time. During the class, feedback should be given without discouraging the students. Women should have friendly education and they should have an environment that motivates them. If it happens like this, it should be shown how it happens. The teacher should encourage you can do it too. The girls' engagement can be increased by giving feedback as needed.*

From the above information of my participant, I came that, it conclusion that, the college should hold classes at a suitable time. Feedback should be provided during class without discouraging the pupils (Pandey, 2007). Women should receive a friendly education and live in an environment that inspires them. If anything like this happens, it should be documented. The teacher should inspire you to do it as well. By providing feedback as needed, the girls' engagement can be increased (Mandal, 2021).

> **Usha** *Hostel facilities for women should be arranged for their scholarship children should have the same attitude towards studying. Parents should focus on studying math. Increase the number of female math teachers if there is a*

math teacher, they will have courage, so female teachers should be increased. Regular practice at home and in class should be done. At home, they have to do other things so that they have time to study mathematics. When three people collaborate, there will be three girls and three guys in a group of six, increasing the representation of women. You should converse with the instructor as well. Even if the students are ineffective, giving the kids constructive criticism will make them do better the next time. For re-enforcement, women have to come to Popeye when there are extra activities, they go home, and the authorized person should make separate arrangements to eat and sleep there.

From the above information of my participant, I came that, it concluded that, for their scholarship, ladies should be provided with hostel arrangements. Children should have the same approach to learning. Parents should emphasize math studies. Increase the number of female math teachers because if there is a math teacher, they will have confidence, hence the number of female math teachers should be raised. Regular practice at home and in class is required. They must do other things at home to have time to learn mathematics. When three people work together, there will be three girls and three boys in a group of six, increasing the female representation. You also must discuss this with the teacher. Even if the students are a mistake, providingconstructive feedback to the students will motivate them to perform better the following time. For re-enforcement, women have to come to engage in extra activities

Basu *There should be an environment to send girls to college from the family. The teacher should explain the content while teaching. Girls take more time to learn than boys, they are shy when asking questions, and they say something,*

that's why the teacher should encourage them to develop the feeling that they learn by asking questions. In this way, it is easy to do classwork. To be engaged in the group and work, there should be an atmosphere of discussion among the friends, and the friends should also collaborate. The college should run the program by women.

From the above information of my participant, I came that, there should be an environment in which girls from the family can attend university. While teaching, the teacher should explain the content. Girls take longer to learn than boys since they are shy when asking questions and saying things, thus the teacher should encourage them to develop the feeling that they learn by asking questions. It is much easier to complete classwork this way. To be engaged in the group and work, there should be a discussion environment among the friends, and the friends should also work collaboratively. Women should manage the program at the college.

Making girls' friendly home environment. She gave this answer to the question of how to create a girls' friendly environment for girls to study mathematics in the family. Nepal's Constitution Dhara-38, every woman has equal lineage rights without gender discrimination. No woman shall be subjected to any form of violence or exploitation on grounds of religion, social, cultural tradition, practice, or any other ground (Nepal's Constitution Dhara-38, 2072).

Part *Women have less time than men. Most of the higher education students are married and have children, so it is seen that women have to shoulder more responsibility. To minimize this, you should increase your internal strength by saying that you can do it, and help from your family as well. Exercise should be done at school to boost girls' engagement, especially at the collegiate level. At the secondary level, the advantages of selecting optional mathematics*

should be outlined. A girl should maintain her enthusiasm for mathematics despite having obligations and responsibilities at home and advance by controlling her time.

Share *To increase girls' involvement, especially at the university level, exercise should be done at school. The benefits of choosing optional mathematics at the school level should be explained. Similarly, as a girl has duties and responsibilities at home, she should not reduce her interest in mathematics and move forward by managing time: if you have a habit of going to bed at 10 o'clock, reduce it to midnight, etc. Of course, women have less time than males. Since most higher education students are married with kids, it is obvious that women have more responsibilities. By telling yourself that you can do it and enlisting the support of your family, you may reduce this to a minimum.*

Rupa *Our parents come first then the home environment. Parents should treat their children equally. In married cases, family time should be prioritized by being supportive. Women naturally have less time than men. Women have additional responsibilities because the majority of students in higher education are married with children. You can minimize this by convincing yourself that you can accomplish it and asking for your family's support.*

Ganu *Sources needed to complete the homework given by the teacher should be mentioned. In a married woman's house, women have various household responsibilities, and other members of the house should help with such responsibilities. Students should also be interested in themselves. Girl students have to manage their activities. The fact that most students in higher education are married with kids shows that women have additional*

responsibilities. By telling yourself you can do it and enlisting the help of your family, you can reduce this.

Usha *house the concept that work belongs to women has to be removed, cooking, and clothes all the members do not think that work like washing and keeping the house clean is only for women should be done Gender differences should be reduced. Citing the sources utilized to complete the prescribed coursework is important. In the home of a married woman, women have a variety of household responsibilities, and other family members should help with these tasks. Students should be interested in themselves as well. Girls are expected to manage their affairs while in school.*

Banu *It is important to cite the sources used to accomplish the assigned homework. Women have a variety of household duties in the home of a married lady, and other family members should assist with these duties. Students ought to be curious about themselves as well. Girls at school are required to oversee their activities. The idea that women should solely perform domestic tasks such as cleaning the house and doing the laundry needs to be dispelled. The same goes for cooking and clothing. The gender pay gap has to be narrowed*

From the above interview, that to increase the number of women in the school environment, it is seen that the school should have a women-friendly environment in which the teacher teaches the girls they go less than they do as they have come to the university to learn, they should be treated like boys, motivated in learning and encouraged by saying that you can do it too (CERID, 1996). Likewise, when asking questions, focus on the boys and not only look at their answers, but also give feedback to the girls by looking at their class work, and maintaining enthusiasm. Attention

should be given to girls, if they do not do classwork, if attention is paid, the participation of women in classwork can be increased. There is a gap to increase participation, but the main thing to fulfill the gap is to increase engagement by making positive behavior toward girls from the family to the university. The positive response is that even if the teacher made a mistake somewhere, there is a mistake and it should be corrected Girls' in-class work every day can increase group work is a complex task and it is not as easy as working alone.

As per my subject experience, girls find mathematics difficult. When I was studying in school, the number of women studying optional mathematics in class 9 was zero. I was also afraid to study optional mathematics because, in the society in which I grew up, society made me afraid that mathematics is a subject for boys to study and that women cannot study it. They used to focus on boys more than girls, so we were afraid to ask about things we didn't know, that's how girls are lagging in learning mathematics. Mathematics is a compulsory subject at the school level, while mathematics is an optional subject at the higher level. Since girls are not positive towards mathematics from the school level itself, it can be seen that the participation of women at the higher level is less.

To increase the participation of women at higher levels, by creating a women-friendly environment in schools from the school level, if we can attract girls to mathematics by showing the various opportunities that can be obtained by studying mathematics, the participation of girls in mathematics classrooms can be increased. While studying mathematics, when a girl asks a question in the classroom, the teacher should be polite and give feedback to check the class work done by them. As girls have different household responsibilities, only the girls' household should bear them. I argued that a girl's nature at a higher level determines both her involvement and

success in mathematics. Similarly, a girl's actions, circle of friends, level of confidence, and teacher's.

ChapterV

FINDINGS, CONCLUSIONS, AND IMPLICATIONS

The study entitled "Girls' Engagement in Master-Level Mathematics Classroom" aims to explore girl students' engagement in the mathematics classroom and explore the strategies for promoting girls' engagement in mathematics learning in the classroom. To fulfill the objective of the study, I went through five different chapters. In the first chapter, I have presented the introduction of the study that includes a background of the study, objectives, research questions, rational of the study, delimitation of the study, and operational definition of key terms. In the second chapter, I have discussed the review of the related literature which consists of the theoretical part of the research. Based on the review of related literature, I have developed a conceptual framework to conduct this study. The methods and procedures of the study have been described in the third chapter. The design of this study was the narrative inquiry. In the fourth chapter, I analyzed and interpreted data base on the general inductive approach of Thomas (2006), and the sample of the study was four girl students who are studying mathematics at the university level and two female teachers. And in the last chapter, I have presented the conclusion of the study based on the findings of the study. After the collection, analysis, and interpretation of data and the discussion made on the summary of the findings, the researcher concluded that the teacher and parents have been sometime equally for the girl student learning activities in school to university and create equitable classroom and good environment at home for learning can improve the mathematics learn of girls' students classroom environment (Classroom attendance, Doing class work, Doing assignment, Interaction with teacher, Using ICT tools while presentation, Interaction with peers, Involve in extra-curricular activities) major key to address girls' engagement in the mathematics

classroom and the interview to address strategies of girls promoting in learning mathematics classroom.

This study was based on the narrative inquiry study. The study design has utilized on qualitative research approach. The main purpose of the study was to explore the girls` engagement in mathematics classroom and to promote the girls' students increase at higher level learning mathematics. The sample of the study consisted of all girls' students who are studying mathematics at the central department of mathematics education in the academic year 2075/076. For the narrative inquiry purpose, the researcher used purposive sampling techniques to select a sample classroom and sample girls in the first stage. It has been selected by four mathematics girls. The researcher used one set of observation forms and interview questions for collecting information. The observation form was used only to fulfill the first objective i.e. to explore the engagement of girls in mathematics. Interview guideline was used to fulfill the second objective i.e. to explore the promotion that increases girls' involvement in mathematics learning.

Findings

The main objective of my research to explore girl students' engagement in the mathematics classroom and explore the strategies for promoting girls' engagement in mathematics learning in the classroom. I have used the observation form, interview schedule and document analysis as a data collection tools. The data obtained from these tools are analyzed using literature and from data collection tools. On the basis of analysis of data interpretation of result. The researcher has analyzed the data by including also his experience. Finding of objectives are explained separately below:

Findings related to the engagement of girls in learning mathematics. After 10 days observation, the findings have been derived. It was found that low girls have

regular classroom attendance, they have good discipline in the classroom and they comes college in time rather than boys. On the observation it was found that girls' students were poor on doing class work. Boys were always faster than girls on class work summit.It was found that about the engagement of girls in doing assignment was: all the girls students were submitted assignment in time, girls' engagement in group work was not good as compared to boys.It was seen that girls had more interaction with peers rather than boys, they consulted with boys about homework, class work and discussion about subject matter also, girls asked question with classmate rather than teacher while they were confused.

After observation,it was found that girl's interaction with teacher is much less than that of boys. Most of the girls never asked questions to the teacher. Girls had hesitation with teacher. Comparatively girls were familiar to interact with the female teacher rather than male teacher. It was found that both boys and girls used ICT, comparatively, girls used them less than boys. Girls had more interaction with girls than with boys. Girls share assignments and share their happiness and sorrow with their friends. There weren't any additional extracurricular activities in the mathematics class, according to the observation of the class. According to my experience, girls had low level of engagement in extracurricular activity.

Findings related to promoting strategies for girls' engagement in mathematics learning. It was found girls' engagement in mathematics classrooms can be increased if making equitable classroom for girls learn mathematics in the classroom and. There is a gap to increase participation, but the main thing to fulfill the gap is to increase engagement by making positive behavior toward girls from the family university. Attention should be given to girls, if attention was paid, the engagement of women in classwork can be increased. To increase girls' engagementin

extracurricular activities, they can be made more involved by separating quotas.In the class, feedback should be given without discouraging the students. Women should have friendly education and they should have an environment that motivates them and increase the number of female math teachers.

Making girls' friendly home environment for promoting girls' engagement in mathematics learning in the classroom. It was found that lack of family support is the major problem of girls. Making supported family background, etc. The main issue was that girls couldn't leave their homes for higher education because university-level education is centralized. It should be decentralized.

Conclusions

Girls have low levels of engagement inextracurricular activities, aninteraction with teacher, classwork, assignments, and instructor engagement. However, girls' nature at master-level mathematics classroomdetermines both her engagement and success in mathematics. The areas that assist girls to learn mathematics include classroom environment. I claimed that participation and their achievement of girls in mathematics depends on their nature in master-level. Similarly, girl`s behavior, friend`s circle, confidence level, teacher`s attitude etc. play a vital role in encourage girls for participation in mathematics learning.

The teacher's behavior and family background are having some positive and negative effects the on mathematics learning of girl students. Creating a good environment at home for learning can improve the mathematics learn girls students' in classroom environment. Girls' engagement in mathematics classrooms can be increased if making equitable classroom for girls learn mathematics in the classroom and home environment. I claimed that the making equitable classroom and girls'

friendly home environment for promoting girls' engagement in mathematics learning in the classroom

From the information and my experience, I conclude after studying this topic is that girls was less engaged in learning mathematics. It was seen that attention should be paid to various things to increase the engagement of girls in mathematics learning. Girls' engagement could be increase if it should be decentralized.At last, it is concluded that girls are equally talented and should be given equal facilities at home and mathematics classroom to learn mathematics. Parent and teachers should not consider girls are incapable than boys for learning mathematics.

Implications of this study

From the above findings and conclusions, the researcher would like to suggest some implications.

- It is useful for policymakers if they wanted to form any policy to increase girls' participation in learning mathematics.
- This study helps to improve the mathematics achievement of girls' students and it would provide useful tips to improve mathematics learning.
- This study help mathematics teachers with effective teaching.
- Educators need to adopt instructional design techniques to attain higher achievement rates in mathematics.
- This study helps to minimize the failure rate in mathematics.
- This study helps for girl students to be aware of the main problems of mathematics to adopt the required strategies for improvement.
- It is helpful for the researcher who wanted to study in related topic. It is useful for parents also because it provides information about the low interest of girls in learning mathematics. And also built ways to increase their interest.

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Appendices

APPENDIX - A

Class Participation Indicates	Girls	Boys
Regular attendance		
Has textbook		
Use share textbook		
Intersection with teacher		
Intersection in group		
Intersection with peers		
Lead other in group		
Work independently		
Complete class work at time		
Complete assignment at time		
Ask question		
Presentation confidence		
Use ICT tools		
Comment for friend presentation		
Involvement in extra-curricular activities		

Appendix - B

Name of teacher:- ……

Qualification: - …….

Trained/untrained: - ……..

Teaching experience:- …… Address:- …….

Email …… Phone no. ……

VDC / Municipality Ward no.:- ……..

The interview with mathematics teachers will take under the following two topics.

Interview questions for teachers

Classroom environment

1. How can the presence of women in the classroom be increased?
2. What should be done to increase the participation of women in class work,
3. Why do girls not prefer to work in group work?
4. What should be done to increase the involvement of girls in group work?
5. Why don't girls show confidence in presentations even though they have mathematical knowledge?
6. What steps should be taken to make girls able to give a presentation with confidence?
7. How to increase the participation of women in extra-curricular activities?

Home environment

8. Since women have to fulfill various responsibilities in the household, they say that they do not have enough time to practice mathematics. How can such a problem be solved and women are given the same amount of time as men in mathematics practice?

Appendix - C

Name: ……. Email: …….Phone No: …….

Marital status: ……

Address: …….

College: ……

Level: …… Semester: ……

The interview with mathematics learning students have taken under the following two topics. Interview questions for students

Classroom environment

1. How can the presence of women in the classroom be increased?
2. Why are we afraid to show the class work we have done to the teacher?
3. What should be done to increase the participation of women in class work?
4. Why do girls not prefer to work in group work?
5. What should be done to increase the involvement of girls in group work?
6. Why are we afraid of presenting?
7. Why don't girls show confidence in presentations even though they have mathematical knowledge?
8. What steps should be taken to make girls able to give a presentation with confidence?
9. How to increase the participation of women in extra-curricular activities?

Home environment

10. Since women have to fulfill various responsibilities in the household, they say that they do not have enough time to practice mathematics. How can such a

problem be solved and women are given the same amount of time as men in mathematics practice?