

**PARTICIPATION OF GIRLS AT HIGHER SECONDARY LEVEL
MATHEMATICS IN SURKHET DISTRICT**

**A
THESIS
BY
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**FOR THE PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE
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Participation of Girls at Higher Secondary Level Mathematics in Surkhet

District has been approved in partial Fulfillment for the Requirements for Master Degree of Education.

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CERTIFICATE

This is to certify that **Mr. Devendra Bahadur Rawat** a student of academic year 2069/070 with campus Roll No:1207, Thesis No 1062, Exam Roll No: 281012/2070 and T.U. Registration No: 9-2-57-687-2008 has completed his thesis under my supervision during the period prescribed by the rules and regulations of Tribhuvan University, Nepal. The thesis entitled “**Participation of Girls At Higher Secondary Level Mathematics In Surkhet District**” has been prepared based on the result of his investigation. I recommend and forward that his thesis be submitted for the evaluations as the partial requirements to awarding the degree of Master of Education.

.....

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.....

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ABSTRACT

This is a descriptive case study to reveal the facts and situations to the girl's participation in Higher Secondary level mathematics in grade XI. The main objective of this study is to find out the factors of low participation of girls in learning Mathematics at higher secondary level. This is a qualitative research with case study approach. This study finds out the reasons or factors of low Participation in Higher Secondary level Mathematics .

The study was conducted and analyzed based on the conceptual understanding on which information and data were garnered. All the data were derived from interview, classroom observation, school document analysis. The study found the low participation of girl's in Higher secondary level mathematics. This study clearly showed that the following factors teachers attitude towards participation girls mathematics, parents attitudes towards girls mathematics, girls interest, early marriage and social impact do on participation Girls and play the vital role for increase participation at Higher secondary level mathematics. Parents economic condition is another cause of low participation girls at Higher level mathematics. It shows that parents good economic and academic back ground has the greatest impact on daughter's education, which was also a major finding of this study.

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Chapter - I

INTRODUCTION

Background of the Study

Education play vital role in the development of people. It means for all kind of progress whether of an individual or society. Educated person are the agent of change in the society. Education is the backbone of development. It is also stepping stone to development. It means education is most essential part of human life. But education cannot perfect in itself without mathematics. Mathematics has been accepted as an important component of formal education from ancient period to till now. In the beginning of human civilization people were used mathematic in different ways. History shows us that ancient people developed mathematics practically being obliged to solve day to day problem. Mathematics is also a power full learning tools. Today other discipline such as science, engineering, medicine and technology may be handicapped without mathematics and word cannot run smoothly without it (Uprety et. al, 2009).

The word “mathematics” itself drives from the ancient Greek (mathema) meaning “subject of instruction”, that means “ to learn”. A famous mathematician Jhona Luck define the mathematics as follow “mathematics is a way to settle in the mind a habit of reasoning” because it is the way of thinking, way of organizing, way of analyzing and synthesizing a body of data. Nowadays no one can do anything without use of fundamental process of mathematics in daily life. As we know mathematics is nothing other than rigors aesthetes of series of definition, example, theorem. Mathematics may be pure or applied and classical or modern, but any ways within mathematics we always encounter them (Subedi, 2014).

Before the establishment of higher secondary education board (HSEB), there was only one program of education launched by Tribhuvan university named as PCL level. In spite of this, there was scarcity of education for general people, because only a limited number of colleges were affiliated to the Tribhuvan university and so spreading the access of higher education to the public was quite impossible. So there was still a need of an educational program which can be improved the quality of education and to overcome this problem. As a result, on 12th Falgun, 2046 BS, the higher secondary education board was established intending to produce the middle class manpower and to get entry for the higher education. Most of the girls students at higher secondary level do not like to select mathematics as major subject due to the possibility of failure in examination. Girls' dislike to this subject has become a great problem to educationists and stakeholders.

In Nepal mathematics teaching has been formally started with the establishment of Darbar High School in 1853 A.D during Rana period, but there was no well planned program since the dawn of democracy in 1984 A.D. following were the major planning commissions

1. Nepal National Educational Planning Commission (NNEPC, 1954).
2. National Education Commission (NEC, 1992).
3. National Education System Plan (NESP, 1971 – 1976).

National Higher Education Commission (NHEC, 1998) has given importance for the improvement of school level education curriculum, teaching method, teacher background, teaching material and teacher training. In 1969 government of Nepal launched “the equal access for women to educational program” to increase the girls' enrollment in primary school. The gender parity index (GPI) in NER at primary,

lower secondary, secondary and higher secondary levels are 0.99 ; 1.02 ; 0.99; and 1.03 respectively (Flash I Report, 2071).

Before the drawn of democracy in Nepal, women had to pass their days in traditional way so, they were unable to get proper western education in school. Twenty eight women passed SLC examination of 2007 B.S. First lady in Nepal, who passed SLC examination, was Lakha Rajya Laxmi in 2003 BS. In the history of mathematics we can find many male mathematicians such as Euclid, Archimedes, Appolonius, Kippler Pascal, Gauss Euler etc. But it is very difficult to find the female mathematician. Chadra kala Devi Dhananjaya is only first female mathematician of Nepal.

In the developed society women's education is as necessary as that of men; but in the developing and under developed society it has become more far several socio-economic reasons. As far as refinement of generation is concerned women education has been considered to be more necessary. If women are educated, she can benefit the children with her enlightenment and learning experiences (Jagri, 2009).

In the present context of Nepal girl's participation in learning mathematics at higher secondary level is complex problem because, there is a more than half number of girls in total population, but they have low participations in every sector. List numbers of girl are involved to read mathematics education at higher secondary in Surkhet district. So, I am going to motivate digout of study on this issue as my thesis study. What causes influence the girl's students in selecting mathematics is not yet determined on the basis of the research Females cover more than 50% of whole population of the country. But while visiting different colleges and +2 in Surkhet valley I found only around 10% females participating in higher level mathematics

education This is very low in comparison to the male participation. So, I will motivates study of this study.

Statement of the Problem

I choose this issue which had really affected me during the secondary level of education in my life. Reviewing the long span of my learning experiences as a mathematic students and teacher in different academic level made me realize that the participation the girls in mathematics subject is very low in comparison to boys students (Yadav, 2014) Population of Nepal was 26494504 in census 2068 BS. Among them male and female was 12849041 and 13645463 resp. Literacy rate of Nepal according to population census (2068) is 65.9 %. Literacy rate of male and female are 75.1 % and 57.4 % respectively (statistical pocket book of Nepal, 2012). This kind of difference shows one instance of unequally access to education opportunity to male and female in the country.

This shows that literacy rate of female which is very low in comparison of male. Among the above mentioned figure of female participation is low in higher level education, which, also shows that participation of girls is low in higher level mathematics? In the beginning the teacher was centre point of research and study of mathematics. According to change in time there was a change in teacher oriented education. Later the research and study in mathematics was done according to the knowledge, interest, their participation and their psychology. So, my research is on participation of girls oriented. (Acharya: 2014).

This study is related to the participation of girl's student at higher secondary level. So the study of the girls participation in higher level of mathematics. The mathematical concept is given from the basic level to higher level. Teacher while teaching mathematics in classroom girls students are less interested to learn mathematics. Girls students are culturally backward to study mathematics. People have miss concept about girls students (Pandit, 2011).

Women are biologically different from men. The participation of the girls all over the world is very low in economic, intellectual, social and political opportunity. It is because of less involvement of women in education in comparison with men (male). The position of women in labor market is partly mirrored by their performance in education system (Pandit, 2011). Comparatively also the achievement of girls student was very low in learning mathematics then the male. Girls home environment did not favour for learning mathematics.

The political, economical, religious and the cultural condition of the society can affect in the study of the mathematics education for the female. Now adays, no one can go far from the mathematics. So, mathematics education is most important for female. "A girl of today will be a mother of tomorrow". An empowered mother is the person best suited to recognized and promote the best interest of the child in every sphere survival development promotion and participation (Sharma, 2013). Most of the girls students of rural area of the Surkhet district do not choose mathematics subject at higher level. Girls participation was very low then men Surkhet district. Therefore, there were different questions related to the difficulty in mathematics learning for girls students. The study has tried to answer the following research questions

1. Why is the participation of girls in learning higher secondary level mathematics ?
2. How are the factors that affect for participation of girls?

Objectives of the Study

The goal of this study was to gain an understanding perception. In mathematics class room in the school of Surkhet district it appeared to me that the participation of girls in mathematics classroom is lower than boys and many researcher have shown that the achievements of female in mathematics is poor. The specifics objectives of the study are as follows:

1. To explore the participation of girls in learning at higher level mathematics ?
2. To examine the influencing factors of less participation of girls in the learning mathematics in higher secondary level at Surkhet District.

Signification of the Study

The social status of girls in a community is linked with the social status of women. Therefore girls should be educated so that they will be recognized their importance in the society. There can't be development without the full participation of women. This study was concerned with the participation of girls in mathematics at HSL of surkhet District .I tried to investigate and found out the factors of poor/less participation in learning mathematics of girls at higher secondary level. The enrollment of girl's student at higher secondary level mathematics is very low. Mostly the girl's students want to go far from mathematics subject. In such situation this study would help to find the solution of the existing misunderstanding on girl's mathematics. Specially, this study is important for the following significance.

1. This study would help to increase girl's participation in higher level mathematics.

2. This study would open the doors for the further study in problem of mathematics learning of girls student.
3. This study would help those students who were not participation in mathematics learning.

Delimitations of the Study

This study is mainly concentrate in higher secondary school of surkhet district especially girls participation in higher secondary level and faculty of education which are serving the students under the rule and supervision of HSEB. So the finding or study can not generalize in other sector and region about girls educational status, due to lack of time and resource large field is not possible to cover, so is not except with weakness.

Definition of Key Terms

Participation

The word 'participation' refers to the act of sharing in the activities of a group. In my research, female participation primarily refers to enrollment and their presence in classroom activities of mathematical learning in higher secondary level mathematics education.

Peers Influence

It is related to peer's help in subject selection, motivation towards this subject, learning help, etc. on study mathematics.

Family Background

Family background refers what of family a student's come from. It relates with consciousness of guardian, educated, economic status, freedom and other facilities.

Primary and Secondary data

Data which are taken from field visit by interviewing with the students, teacher and guardians also secondary data are taken from different pre studies report, books and literature.

Factors

The term factor is defined as one of the thing that influences something. But here the terms factors indicates detrimental thing on students.

Higher Secondary School

The school based on the class one to class twelve. In my study, higher secondary level mathematics education indicates +2 levels.

Chapter –II

LITERATURE REVIEW

The literature review in my research study accomplished several purpose. It shared with the research with the readers the result of other studies that are closely related to the topic of my study.

This study is concerned with the Girls participation in learning mathematics of students at Higher secondary level. Review of related literature is an essential part of research for the researcher because related literature helps and guides researcher for the further study. This chapter describes the development of girls education. The previous studies can not be ignored because they present the foundation to the present study. This chapter also describe empirical and theoretical framework of this study.

Empirical Literature

The empiricist analyzed mathematics education as an applied science. Empiricist favors experimental studies. In 1995 the first world women conference was held in Mexico city declared the decade of women (1976-1985). The second world women conference in 1980 was held the mid- term program evolution. The third world women conference (1985) was held in Nairobi of Kenya with giving priority to equality between male and female. Full participation of women in development and roll of women keep in peace. In 1995 September 4-15 under the organization UNO in the Beijing fourth world women conference was held and the emphasis was given in women equality and women development. Overall these conference conclude that, women's are biologically weak so, increase their participation in every sector (Pant. 2012).

Magar (2012), Conducted a study on the topic "Female participation in higher level mathematic educations." She conclude from this study that different factor

which influenced girls' higher level mathematics education. The most influencing factor is Nepalese socio-cultural dimensions, which favor boys more than girls in every sector of the development. Next was existing school mathematics pedagogy and weak achievement of girls in school mathematics which could not provide the strong background for mathematics study in their higher level. And next aspect was programs and policies on girls' education. Because of their poor implementation, monitoring and evaluation system, they are not fruitful to empower the girls till higher education. There are very few policies and programs to empower the girls in higher level. Due to these reasons, girls do not participate equally as boys in higher level mathematics education. In other words, there is very low participation of girls in higher mathematics.

Dhakal (2006) conducted a study on the topics "A study of the factor affecting the girls students attitude towards selecting of optional mathematics at secondary level" she concluded from the study that the girls should have the positive attitude towards selection of optional mathematics and the girls students opinion to choose optional mathematics have positive attitude towards these variables and those variables and those having negative attitude do not select optional mathematics. This impact also on basic mathematics at higher secondary mathematics.

Droper (2010), Did a study topic "empowering women in Nepal" the study found that women's gender inequality in Nepal stems from a traditional socio-cultural that defines the formal and informal rules for women's participation in relation to opportunity, decision making, access to resources and women's control over them (Human Development report 2009).

Tiwari (1984) carried out a research on "A comparative study of boys and girls attitudes toward mathematics". The researcher was intended to find students

attitudes towards mathematics and to determine the relationship between parents and their children attitude towards mathematics. the required data were collected by using questionnaire developed by Georage Levine (1971) collect data were analyzed by applying two tailed t- test at 5% level of significance and karls- pearson product moments correlation coefficients. And found that, although it can be learned by anyone and in society boys and girls both are the students of mathematics, boys seemed to exhibit higher success rate in mathematics learning. Then it measures of the attitudes of boys and girls differed significantly. Student's performance and their parent's social status and mathematics knowledge were found to be closely related. Sign (2012).

Jagri (2009) the barriers to girls participating in mathematics learning are image of economic, uneducated family background, socio-cultural and other realities that vary by community. When families choose which children will or will not be educated or which will have better educational opportunity song are preferred. Educating a son is investing in his ability to look after his aging parents while educating a daughter is considered a no return investment.

Reyes and Stanic (1988) reported a relationship between student's interest in mathematics and attitude towards the teacher's. The American Association of University Women (1994) concluded that when girl students teacher's believe that girls cannot do the things, the girls thing that they can. This result shows a lower self esteem for the girls. As well feeling about academic performance correlates strongly with relationship with teacher for girls.

CERED (2004), in a study report concludes that children's participation and continuation on education depend upon parent's attitude towards educations. How

children's continue their education was totally, depend upon the attitude of the parents, when parents realized the need of their children's, this is the opportunity to the children and education.

Pandit (1984) there is positive correlation between attitudes towards mathematics and achievement but differs by sex. The main attitudes score of boys towards mathematics as school subject as greater than that of the girls. Both boys and girls held positive attitudes towards mathematics but the main attitudes core of boys are higher than that of girls (Tiwari, 1984). The attitudes score of boys towards geometry were significantly in the following literature review three major themes will be discussed in regards to gender specific classrooms. One of the theme will talk about how students' attitudes toward math changes or not by being involved in a gender-specific classroom. The next theme will focus on how students' participation increases or decreases by being in a gender-specific classroom. The final theme will discuss how teaching in a gender-specific classroom needs to change in order to maximize effectiveness following three question were make try to clear participations of girls.

Baker and Jacobs (1999) found that girls preferred the single-sex classes because girls were more supportive of each other. "Girls said they were more willing to participate in the single-sex classroom and were less embarrassed without the boys" (p. 5). Girls feel more comfortable in class without the boys, but many are afraid to admit to the fact they can concentrate better when boys are not around. Gender Specific Math Classes 6

Rajbhandari (2001) said high school drop-outs among girls students can be attributed to a number of causes like early marriage, household burden, working in the

field for agriculture, caste and ethnic discrimination, distance of the school, irregularities in school operation due to teacher absence or non-existence, poverty etc. so the fact that the government policy to provide free education to the girls children in a burning question as well.

Mathematics in Higher Secondary Education

Higher Secondary Education Board (HSEB) was established in 1989 under the Higher Secondary Education Act of the parliament of Nepal. It is said that education is a lifelong process, but the basic education that one gets during the formative years definitely contributes to the shaping of one's future and outlook. This is where the school education assumes importance. The HSEB has been introduced to provide quality education to a larger part of population through out the country. Because of the limited number of universities and campuses and their concentration in the urban and semi urban areas, a large group of students in the rural areas are either deprived of education or are forced to migrate in the urban. Although, the system promotes female participation but a girl has many constraints in the Nepali society and she still has to face a lot of problem of leaving home for further studies. In this regard the, Higher Secondary Education Schools established near their home places provide them with the opportunity to be a part of the mainstream [12]. There are 1545 higher secondary school affiliated with HSEB and 114 campuses affiliated with different universities in which the courses of 10+2 and intermediate are being taught. So all together, there are 1659 institutions offering higher secondary level education and this number is increasing annually.

Theoretical Literature

In my research, I have used liberal feminism theory because this theory primary focus on women's ability to show and maintain their equality through their own action and chooses. Liberal feminist argue that or society holds the false believes that women are, by nature, intellectual and physically less capable then men. It tends to discriminate against women in the academic and market place (Shrestha, 2003).

Liberal Feminism

In my research I have used liberal feminism theory because this theory primary focus on women ability to show and maintain there equality though their own action and choices. In the content of Nepal, there is discrimination between boys and girls in education sector because their parents don not want to invest money on their daughter education. Liberal feminist emphasize to on creating opportunities for women with in the education system. They argue that women also have equal chance to be educated in the same way as men. It believes that "Female subordination is rooted in a set of customary and legal constraints that blocks women entrance to and success in the so called public world" and they work hard to emphasis. This quality of men and women through political and legal (Thapa S, 2012).

Women Empowerment

Women education which is somehow linked to empowerment of women is a topic of high importance in the recent times for the overall developments of the country. Entire nation business communities and groups can benefit from implementation of programs and policies that adopt the nation of the women empowerment, empowerment of women is one of the major procedural concerns while addressing human right and developments. The human goals and other credible

approaches aim at the point empowerment and participation of women's to overall developments of nation. (Khatiwada , 2012).

Feminist Theory

Feminist theory is the extension of feminism into theoretical or philosophical discourse. It aims outgrowth of the general movements to empower. Women worldwide. Feminism can be defined as a recognition and critique of male supremacy combined with efforts to change it. Feminism is theory that men and women should be equal politically, economically and socially. This is the core of all feminism theories. Bell Hooks (1994) states “feminism is a movements to end sexist oppression”. “feminism has no single and generally recognized meaning but its common ingredients are that women suffer from common social injustice because of this sex. The goals of feministic are follows:

1. To demonstrate the importance of women.
2. To reveal that historically women have been subordinate to men
3. To bring gender equity

Constructivist Theory

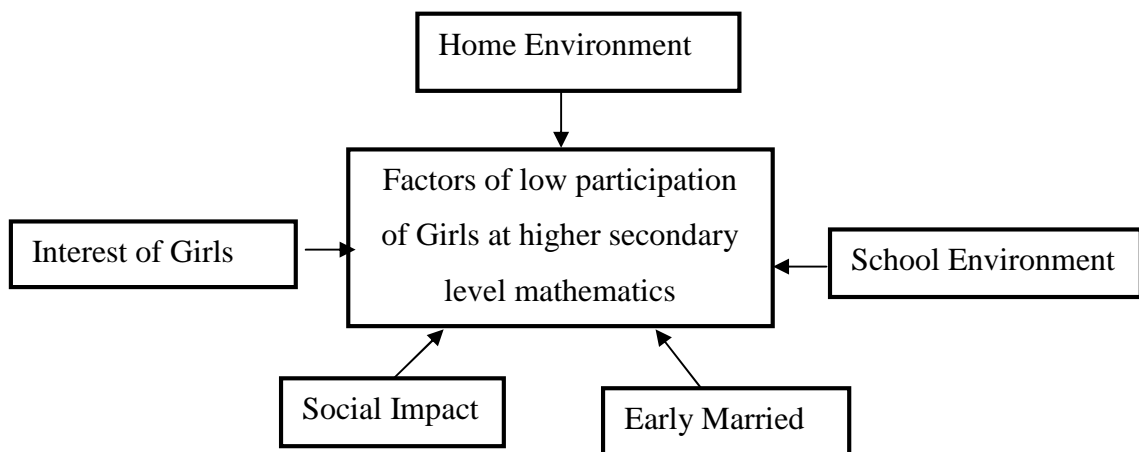
This study mainly related with the Vygotsky's theory of constructivist approach to remaining mathematics. Vygotsky's (1978) states every function in the childs cultural developments appears twice first on the social level and later on the individual level. First between people intra psychology. This applies equally to voluntary attention to logical memory and to the formation of concepts. The objectives of Vygotsky theory are as follows:

1. To motivate learner for learning.
2. To emphasize on previous knowledge capacity for learning.
3. To emphasis on cooperative learning.

Constructivism emphasizes on the collaborative learning girls participation is also important

Conceptual Framework

As discussed above related literature, participation of girls students in mathematics at higher secondary level may depends under different variables. Generally participation of girls students in at higher secondary level specially in girls influence from teaching leanings process, home environment, school environments, social variables, and attitudes towards mathematics. Under teaching learning process, teacher qualification, interest of learners, exception of teacher, views and believes of teacher girls participation will discuss.



This study was mainly based on the already explained theory, which is "Liberal Feminism". Though the origin of feminism is based on Western Society, I realised that feminism and helpful for Nepali Society too. In the context of Nepal, a large mass of women seems to be limited inside the house and house hold works. So, I realized that development of the country is not almost impossible until unless every citizen educated and highly skillful. So I am motivated to study of this issue.

chapter-III

METHODS AND PROCEDURES

This chapter is the heart of the research. Methods and procedures are connecting link to reality for the researcher, with our methodology the research can't be generalized conclusion. This study was exploratory, descriptive and analytical in nature. In this study, enrollment of girls in HSE, facto. Shows that, some factors were played vital role for participation of girls in HSEB. It describes the design of the study with the aim to population and sample, selection of case respondent, data collection instrument, interview schedule, observation form documents and data collection procedure of the study.

Research Design

The research design of this study was qualitative with case study approach. Qualitative research is multi methods involving and interpretation, naturalistic approach, to its subject matter (Acharya, 2013). The objective of this research is to investigate the participation of girls at higher secondary level mathematics and examine the influencing factors. For this purpose, I selected. Amarjoti Higher Secondary School of Surkhet district. This study was based on case study approach which is related to the girls participation on mathematics learning as qualitative and descriptive in nature. This is a case study of participation of girls in learning mathematics at higher level learning.

Selection of the Study Area

Birendranagar municipality of Surkhet district has been related the study area. The higher secondary schools which are located in this area are providing education to the girls including boys. There are fifteen Higher Secondary School in this area. The research in Surkhet district has becoming a focal point in the present time. Here

different research has been conducted specific on women education but unfortunately there has no any research related on girls Mathematics.

Nature of Data

Both primary and secondary data are used in this study, primary are taken from field visit by interviewing with students, teachers and guardians with the help of questionnaire. Some primary data are taken from school record. Secondary data are taken from different pre-studies reports, relevant books and literatures. Data which are used in this study are both qualitative and quantitative in nature.

Sample of the Study

The sample school of the study selected as Amarjoti Higher Secondary School at Surkhet District by purposive sampling. In this school the total 48 girls students are studying in academic year 070/071. Among them 8 girls students are read mathematics education, also which are not regular,

Sampling

Every study needs tools to collect data. One set of questionnaire, one set of interview, one set of observation schedule were the main tools of study. After using these tools I was causes of low participation of girls at higher level secondary mathematics.

Data Collection Procedure

To qualitative data the researcher was spend one month time duration for this study researcher followed the following procedure for qualitative data for this study, interview schedule and class room observation forms are used for qualitative data. The school record was study such as participation of girls previous years, total observation participation f the class activities and attends.

Interviews

It is process of communication or interaction in which subject or interview gives the needed information verbally in the face to face situation. There are many types of interviews specially direct interviews was conducted with this study. In this technique the researcher not only asked the question but also observe all behavior and activities of respondents. In this study on the basis of objectives, the researcher developed the interviews guideline with teacher and students form (Appendix AI and AII resp). There are different causes of low participation of girls at higher level secondary mathematics at Surkhet district. Different people have differ views about girls participation in mathematics.

Interview with Teacher

Girls are biologically weak they feel mathematics is difficult subject. This area specially from poor and ethnic community are unaware towards education. Parents are not responsible for their children education because must be the parents are uneducated and they are busy in the work.

Interview with Students

Must of the girls students have not positive attitudes towards mathematics learning. They feel mathematics is difficult subject which is not for a girls. Mathematics subject is only for talents and brilint students.

Interview with Parents

Parents have miss concepts about mathematics learning for a participation girls. They do not support their daughter to read mathematics at higher level. Parents say that daughter is the properties of other.

Observation form

I used a set of observation form to observe classroom activities of respondents. This observation included classroom interaction, students and teacher behavior and learning environment. On the basis of objectives also used non participant such as home environment.

As a data gathering device direct observation makes an important contribution to descriptive research. Observation may be participation and non participation. Participation observation is that in which the observer is familiar and participants with respondents. The model of pre determinants observation form is given appendix (Band Bi).

Analysis of Data

Data, which are collected from different sources, are analyzed by tabulation. Both qualitative and quantitative tools are used for the analysis of data. The data were analyzed using descriptive statistic: simple percentages and numerical values. As the study is concerned with girls participation in learning Mathematics. The collected information at first was categorized according to the category of the respondents and different themes were given in the text of interview and the observation note. The obtain data was analyzed with the help of theories and literature described in the literature review section.

Chapter – IV

ANALYSIS AND INTERPRETATION

The data collected for the information were analyzed and interpreted in this chapter to find out the factors of low participation of girls at Higher Level Mathematics. I minutely studied the school's documents such as teacher's profile, attendance as well as the records of the sample students. In addition I observed regularity of Mathematics teacher and also observed doing their behavior with girl's students. (Uprety; Timseena; Khadka; 2009).

To achieved the objective of this study I took observation and interview with math teacher, parents and students for analyzing the data distinctly, I analyzed and interpreted the results with respect to the objectives which are as follows

- I) To explore the participation of girls in learning at higher secondary level mathematics ?
- II) To examine influence factors of less participation of girls in the learning mathematics in higher secondary level at Surkhet District.

I spent two months in the field for data collection within these two months I spent one months in the beginning of (August 2015 to last September, 2015). In the day I always observed the activities of students and teachers at school. In the morning and evening I observed the activities of parents and I understood that how they took their household work and school's work. Usually at daytime, I talked with parents whom I met parents (either father or mother), if they were at their home. During that time I found an interesting case about girls understanding about the home and formed schooling. I have mentioned the case elsewhere. Besides, I met those girls who were studying in Higher Secondary School and

above studies while taking with them, I found their understanding about girls self attitude, parents attitude and teacher attitudes which was also categories in following.

Introduction About Case-Study School

Surkhet district lies in the mid-western development region of Nepal and is known as one of the industrial and educational places in the nation. It is a center of education prevailed with many educational institutions both government and non-government. Shree Amarjoti Higher Secondary School is one of the few Old Schools in this area, which was established in 2017 B.S as a community School. Which is located at Birendranagar-11 Neware Surkhet.

I selected this school as a case to conduct the research work. The name of case school is Shree Amarjoti Higher Secondary School. This School has Sent its students for S.L.C in 2034 B.S for first time. Since them almost 100 of students have been appearing S.L.C per annum. The main credit of establishment of this School goes to late Dambar Dhakal provided 22 Bigaha land and Surendra Pandey provided 3 Bigaha Land for the School After selling some of the land from 25 Bigaha the main building was constructed, the School now with 840 students. In 2050 B.S 10+2 was run in education of and commerce faculty.

Teacher Attitude Towards Girl's Students

The attitude of teacher towards girl's student also play the vital role in participation of girls at higher level mathematics. Observation and interview schedule are prepared to ask about the related topic and asked to the respondents. In the morning of May 12th 2015, I got chance to meet mathematics teacher than I asked to him. What was the activities showing by girls while you are teaching?

While I was teaching the mathematics subject girls did not pay full attention toward the subject matter than boys. So, I have to give more emphasis to boys rather than the girls students.

(August, 6th 2015)

View of teacher

Along this line, I also asked question to respondent girl. Does your mathematics teacher conduct any activities in the classroom? Then she replied that;

The teachers gave more emphasis to the talent student less emphasis to the slow students (August, 6th 2015).

View of girl's

From the above view of math teacher and girl student; it is clear that there is a lack of good understanding as well as the relationship among the girls and mathematics teacher. And the math teacher showed the full attention towards the boy students and he/she never think girls can do as much as boys. There was contradictory view between both.

Theoretically it was assumed that teacher's attitude towards the girls students are one of the factor of low participation in higher secondary level mathematics. Breaker (1977) States that teacher expects less academic performance from the girls students than the boy's students in mathematics. So, this attitude of teachers is one factor of low participation of girls in higher level mathematics study. (cite, Magar, 2012).

Liberal feminism theories do not support the above experience of mathematics teacher and state that Women also have equal chance is Education in the same way as men. Who impressed girls to take major mathematics in +2 level? Then he replied that;

Normally, girl students choose major mathematics befactor of friends influence and advice; they do not realize what the subject is ? Girls were not understand about popularization of mathematics also they should not know that mathematics is applicable to their adult lives and occupations" (August,10th 2015) .

View of math teacher.

From above view of mathematics teacher it showed that teacher only gave full attention towards the boys students, and he never think, girls can do as much as boys. Increasing female participation in mathematics at higher level is more complex be factor of teacher miss understanding and their negative attitudes towards girls mathematics.

Vygotsk's (2011) states every function in the child's culture developments appears twice first on the social level and later on the individual. Every people born in society/community and grow up, so school as a miniature society where pupils learn everything so teacher support his/her for advance learner by own their creation.

Feministic Theory argued that to increase the participation of girls at higher education, teacher should encourage them common ingredients are that women suffer from common social injustice befactor of their sex." To demonstrate the importance of women to reveal that historically women have been subordinate to men.

What was the psychological impact on girls participation at higher level mathematics?

Then mathematics teacher said that.

"Girls were more willing to participate in the single sex classroom and were less embarrassed without the boys. Girls feel more comfortable in class without boys, but many are afraid to admit to

the fact they can concentrate better when boys are not around."

(August, 16th 2015)

From above view of math teacher and state of theory, It showed that girls have psychological afraid, Most of the girls have mathematics anxiety. Girls feel more comfortable in class without boys. After analysis of above part of it conclude that there were not female mathematics teacher as a result girls were not expose their problems in front of male teacher which is also a factor of low participation of girls at higher secondary level.

Head teacher and mathematics managed me for observation of the class. The episode of observed mathematics class is presented below, which was the directly observed class. Form it really, I achieved what attitude of teacher's towards girl's participation.

EPISODE – I

One day I went to observe the class while teacher was taking class. A girl was crying and her friend was asking about her problem. But she was only crying with loud voice, but teacher ignored about that. Her friend called the female teacher while the class was running the female teacher advised her to return and helped her to get home. Actually the girl's problem is that she had her menstruation. This shows that the male teacher is irresponsible for girl's students. This accident proves that the factor of school has gender bias yet. Due to these all things, this will be a one of the factor of low participation of girls in mathematics at higher secondary level.

Girl's Attitude Towards Mathematics

In my study there were 8 girls student as a sample. To find out the girls attitude towards mathematics. I observed their daily behavior activities and attendance. By sitting backside of classroom then analysis and interpreted as follows.

Table 4.1
Attendance Percentage of Girl's Student

| Time duration Students | 1 ^s weeks | 2 nd weeks | 3 rd weeks | 4 th weeks |
|---------------------------|----------------------|-----------------------|-----------------------|-----------------------|
| Boys % | 95.5 | 96.2 | 98.3 | 99.3 |
| Girls % | 65.5 | 43.3 | 70 | 40 |

Source: SSRP of school

This table has given the attendance percentages of girl students were comparatively less than boy students in every week. Theoretically it was assumed that the attitude girls participation at higher secondary level mathematic is become low expectation, poor family low achievement in mathematics. Along this line, I asked respondent 'A'. who impressed you to take major mathematics? Then she replied that.

"My friends suggested/advised me to take mathematics' so, I did.

My friends said that mathematics helpless as the base for the technical field in the future (August,20th 2015).

Participant 'A' also added her opinion on the concerned topic as

"Mathematics teacher always comment that the girl students do not know anything else about mathematics and it is a male dominate subject. So girl need not read this, hence they have to choose the other course if there is option" (August,20th 2015).

Different research shows those students who are expected to learn are more likely to participate in school. Girls students attitudes and beliefs also effect the achievement in

mathematics many articles suggested that girls have negative attitudes and expectations for their performance in mathematics. Vygotsk s (1978) states that collaborative learning for these girls participation is also important interaction and collaboration create the new knowledge in the field of mathematics above statements show that frequently participation of girl's interaction at collaboration of any subject mathematics creates new knowledge.

Table No: 4.2

District Participation Girls at Class XI of Mathematics In Surkhet

| Years | Participation Students in HSEB | | | Participation Students in Mathematics | | |
|-------|--------------------------------|-------|-------|---------------------------------------|-------|-------|
| | Boys | Girls | Total | Boys | Girls | Total |
| 2069 | 435 | 170 | 605 | 185 | 56 | 241 |
| 2070 | 750 | 290 | 1040 | 213 | 90 | 303 |
| 2071 | 1052 | 503 | 1555 | 307 | 112 | 419 |

Source:- Status of Higher Secondary Education Board 2071.

The table No: 1, mentioned figure of girl's participation in mathematics is low at Surkhet District. So I want to examine this situation in case of higher level mathematics.

Now ,In present year wise final examination results of HSEB that shows the performance of the boys and girls in the mathematics. In the case of HSEB, mathematics course is compulsory in the first year and students have a mathematics course as an elective in second year. There is a special mathematics course for management and engineering students at this level. The following table shows the number of boys and girls who appeared and passed 10+2 of HSEB for the last five years:

Table: 4.3
HSEB XI Results

| Y ears | Appeared | | | Passed | | |
|--------|----------|-------|-------|--------|-------|-------|
| | Boys | Girls | Total | Boys | Girls | Total |
| 2069 | 28605 | 12625 | 29870 | 8821 | 6095 | 14916 |
| 2070 | 35440 | 18065 | 53505 | 15046 | 8550 | 23596 |
| 2071 | 43834 | 20990 | 64820 | 24112 | 10025 | 34137 |

Source: Status of Higher Secondary Education Board 2071.

These above tables shows that girl's participation is very low comparisons of boys in learning mathematics at higher secondary level. Which is also show that least number of girls are appeared in all three years. So national figure shows there was also low appeared of girls in Surkhet district. Response of girls towards mathematics teacher after analyze of above this three tables which shows that girls participation were low with comparisons of boys. So, I concluded that most of the girls weren't select major mathematics at higher secondary level of above these three tables which shows that, girl

Respondent A

The first respondent of this study was from Birendranagur municipality ward no 8, hastabir, she is now 17 years old and lives with her parents and two sisters, she is the eldest daughter of the family. She has a small wooden house of traditional style which is partitioned with timber and made the four rooms altogether.

She has to do most of the household works before she goes to school. She has a little time to go to School. She has no time to do any practice. She used to be busy only on household work and she did not get a single minute for her study. I asked her along line 'What is your view about mathematics teachers? Then she replied that

"Mathematics teacher always use his lecture methods to teach mathematics he never use new technique to teach. He said that "My responsibility is teaching but not doing exercise, which is your task." He doesn't interact to and also doesn't asked do you have any problem. He entered classroom than write formula for related topics on the board and start doing exercise not interact while he is teaching. (August,26th 2015)

Students view

Above this argue teacher is passive in teaching learning process. He always use tradition method to teach. Teacher doesn't familiar with girls students so girls were afraid to asked question with him.

Vygotsky, (1978) stats that "teacher should always encoure to develop ZPD in classroom. He also said that left the students free in classroom to gain new knowledge, students create solve their problem by their own activities.

E.g. title: addition

Q. N. How many students are there in our class ?

Learner: 20

Q. N. What will be the number if all the person come from your home ? the answer of this question is different in each students. Where students not copycats from other they self try and find out the solution.

E.g.

$$\boxed{} + \boxed{} = \boxed{6}$$

In this addition students freely choice number

She feels mathematics is hard subject. In previous result she scored 70 marks in mathematics. She never goes tuition but she has interest on math. She has no elder person on her neighborhoods who can motivate and teach mathematics her, when she need about mathematics teacher.

-) The math teachers teach well only in the tuition class but not in the class.
-) All mathematics teachers do not train. They have no good teaching skills.
-) Teachers do not participate girls with class room activities rather than boys.

View of respondent girl

Respondent B

Respondent B was 16 years old she born in Dailekh district. But now she lives in her mama ghar in Birendranagar. Word no. 1 Kalinchock, some time she help at house hold work. Her father s economic condition don t sufficient to her study so. She never goes to tuition classes. She also feels so, difficult in geometry. Some time she asked with subject teacher to solve her difficulties.

"my first unfavorable subject is mathematics befactor it is so, difficult and boring to solve." Also she said there is no secrete toilet for girls at school so, I am not interest to go read in this school. All teacher behaviors were male dominated. (August,28th 2015)

In my interview with her. This shows that her attitude towards mathematics in not positive. From above this expression of students it shows that girls are shy in school with male teachers and boys befactor they were psychologically affirmed which also shows that there was not.

Respondent C

Respondent C lives in Birendranagar word no. 11 Neware Surkhet. She was 16 years old. She also did not give positive attitude towards mathematic and mathematics teachers. In this regards I asked question to her. You can understood mathematical concept which touch by teacher? Then she replied that.

"Teachers just write on the blackboard and students just listen and copy on their exercise book. There is just one way system of teaching. Teachers shout loudly and student listen patiently. Teacher teach mathematics without using teaching materials."
(September, 12th 2015)

From above expression of respondent 'A' it was clear that Teacher doesn't use teaching materials he and. Not know importance of materials like as.

" I hear, I forget,
 I see, I remember,
 I do, I understand."

Teacher should' teach abstract mathematical concept by using technical method. For example: If teacher want to teach area of rectangle he has to let them find out the area of floor of the class room by measuring length and breadth and also showing by visual. In my interview with mathematics teacher. "The teacher checks homework after a long time so we cannot correct it if it is wrong or we do not know whether our process is correct or not.

Parents Attitudes Towards Girls Education

Parent of Respondent A

One day I went to respondent s A house for the purpose of visiting her parents. There was I found that their parent s expectation from the son who had studied in private school was higher than from the daughter. So, the daughter was sent in government school. Such type of gender discrimination for education is really a matter of problematic issues. Parent's expectation from their sons was high. I get chance to meet parents of respondent 'A' at his house. Then I asked to him about her daughter. Then he replied that.

" girls are the properties of others they will go another house after marriage so why should we sent them to school rather we must teach them how to work in field and kitchen so that she could make happy to her husband" (September,17th 2015)

Parent of Respondent B

I was meet parent of respondent B at his home. After formally introduction to each other. I asked question to him about girls mathematics education them he said that our economic condition is very poor. *Also he said that*

"There is no money to feed the family; if we eat today there is fear for lunch tomorrow. In such hand to mouth situation of our economic, how we send our children s to school. "
Also he said that" I will provide education to her up to S.L.C only befactor this is academic qualification is enough to become a teach." They must work by themselves to earn some money. *(September,20th 2015)*

Parent of Respondent C

I got a chance to meet the parent of respondent C, near airport side where he worked at construction of building. I asked him about her daughter's education. Then he said that

"My main source of income in our family is labour and agriculture so sometime we need daughter's help to earn money. As a result she doesn't go to school regular. He said that "It is very hard to buy any kind of education materials needed for mathematics because of desperate in family. (September, 21st 2015)

From above attitude of teachers, students and parents towards mathematics shows economic condition is main factor of low participation of girls at higher secondary level mathematics. Teachers not fully support girls at school. Teacher only motivate/request to take tuition class. Psychologically girls are not ready to go to school because there is no secret toilet for girls student.

According to constructivism teachers and parents are a part of the learning to motivate the learners. Those girls who can't solve the mathematical learning they need to take help from their teacher's parents and peers. It is called scaffolding method. To increase girl's participation at higher secondary level mathematics. The role of teachers is most important and parents are careful about girls' interest teachers should be manage scholarship of poor girls student to motivate to read. Traditional attitude towards girls' education of parents should be reduced by giving awareness.

- "Girls' life is inside the four walls"
- "Girls mostly know household works than education"

(Rayamajhi; 2011)

From above teacher attitude towards the girls mathematics girls self attitude towards mathematics and parents attitude towards daughters mathematics were also led to low girls participation at higher secondary level mathematics.

To Examine the influence factors of Low Participation of Girls in Higher Level Mathematics

The information obtained from observation and interview schedule is analyzed and interpreted in this part. There are several factors that lead the low participation of girls in higher secondary level mathematics. With the help of related literature and conceptual framework such variables are described separately as follows.

School Environment

School Environment refers to all circumstances, infrastructure, rules and regulation relationship between teacher and student within the school and activities that are conducted in the school. School is the place of knowledge where students gain the light of education but for achievement the quality of education school environment has vital role in student s life. So, School environment must be suitable in every sense for excellent education system in the school. Along this line I asked to the principal. What kinds of facilities did you provide in your school?

"Due to school's limited budget we are not able to divide separate section though each class need almost 2 sections same reason is for the unavailability of the library. We are trying our best to provide all kinds of academic infrastructure to our students." (September,22th 2015)

View of principal

Same question I asked to the girl respondent what are the facilities availrtable in your school? Then she replied that

"There are not any desks to keep books because all desks and benches are used as benches only we sit in benches keeping books on our lap. Those benches are also not enough to sit all students. We are very late for school so do not get chance to sit and if sited, connectedly seven student in the same bench. We are sit altogether in a class and is very difficult to concentrate and listen the teacher."

(September, 22th 2015)

View of Student

From above regard Bruner's (1966) state that "there is main role of teacher to bring readiness in child. There should be creation suitable environment from use of instructional materials at school. (Acharya, 2015).

John Dewey (1978). School as a miniature community. The physical facility provided by the School is an important part for students that affect in the learning capacity of the students and vice-versa. School environment is not favorable for girls which are one factor of low participation of girls in higher level mathematics also academic activities were not favor for girls such as not good teacher attitude towards girls, not collaboration. From above views there is contradict between teacher and student view. It clear that girls students were not satisfy with physical facilities. There are not any desks to keep books. There is no female mathematics teacher as result girls can't share their physical problem. Physical aspect such as the classroom lighting, color choices and window play a significant role in the participation of girls.

EPISODE - II

Along with math teacher entered the class. At the same time students stood up and said "Good morning sir." It was surprising because the students who were sitting

in front benches only stood up and greet the teacher, the rest students sitting behind didn't stood up. So, it was noticed that the school environment was noticed that the school environments has taught to respect teacher but due to large number of students in the same class the back benches students were careless. The white board was at proper place and in proper height but was not clearly visible from the back. Light is not properly coming from windows. Teacher started a new chapter "Function and Graphs " then he started to explain definition of 'function' without deals about required things such as Domain, Range and co-domain. He gave the definition function and directly entered to do exercise. He solved the problem of Q. No1 and said to students do similarly. But students started copy to others and showed the teachers. Teacher couldn't care all students befactor huge number of students in the classroom. One students asked a problem to him from back side but teacher couldn't listen. Teacher gave homework for them left the class.

Hence in observed class the classroom was not controlled by teacher and it was not satisfactory class. Teacher teaching style was not good befactor he only gave definition without an example, so, to give the concept of function.

Home Environment

House is regarded as the first school to every individual and elder family members as teacher in the house. The students learn how to behave with others, how to respect their elders, how to co-operate with each other, how to maintain peace and harmony, how to read and how write etc, in the home. It is considered that success in mathematics is highly influenced by the home environment which consists of parent s education. Children s participation and continuation on education depend upon parent s attitude towards education. How children continue their education is totally depended upon the attitude of the parents.

Both father s and mother s ethics affect their children to improve their personality (CERID 1990) following point are responsible at home for low participation of girls at higher secondary level mathematics education.

1) Traditional concept of parents one parents said to me "*girls are biologically weak so, they can t read mathematic properly than boys. "Also he said that " The importance of mathematics in our life is to do only subtraction, addition, multiplication and division in order to run our daily activities. Which are well know by them so why should they study mathematics."*

2) Early marriage.

By the socio-cultural structure like early marriage is one of factor of low participation of girls. Girls have to get married very soon so they should know the household skill than the mathematical knowledge.

3) Economic condition of parents.

Poor economic condition of parents is another factor of low participation of girls at higher secondary level mathematics. I want to mention one parent's view that was "*we have all together 6. Children among them Krishni is elder one. You know that our Survival is possible only by daily wages from labour. So we both husband and wife go for labor work in early morning and Krishni should look after her younger brother and sister and other house hold activities. She also sometimes goes for labor in village. In my view reading and writing is not for poor people it is only for rich people.*" (September,24th 2015)

View of respondent C

4) More responsibility of girls at home.

Load of household work girls are not regular participation class. *"Girls responsibility in the home is directly related to their study. House hold works dominate girls at home. One girl's view that was" We don t get proper home environment to study mathematic similarly we do not get enough time for practicing mathematics due to our workload and we do not know how to study. Mathematics by own-self. That is why we are poor in mathematics."*
(September,25th 2015)

- View of Student

Above view of parents and students is directly related with the theory of feminism befactor feminism theory states that "when we create good opportunities for girls at home they can show their performance as a man." But in the context of Nepal parents doesn't want to invest money for girl's education. it shows that they are quite busy in house hold works and works in field and farms.

3. Interest of Girls Students

Interest of girls students also play the vital role in participation. Interest of learner on particular subject has great influence in the improvement of knowledge and be successful on that particular subject, befactor interest refers to the eagerness of the learners to learn about the particular subject. So how much mathematical achievement the student obtains depends on how much the student is interested in mathematics. Mathematics is the subject where the student should pay more time.

"Mathematics is very hard subject, from the time of our bridge course we felt it hard. Now days it s being more hard and hard for us. It s our weakness that we are not able to give enough time for mathematics." *(September, 25th 2015)*

View of students

According to Bruner "any subject can be taught effectively in some intellectually honest form to any child at any stage of development." He also states that in mathematics teaching teachers encourage girls students to read mathematics by using new teaching strategies. Above view of students and theory of Bruner conclude that without interest of any specific subject no one can take success.

Episode: - III

In an observed class after the entry of mathematics teacher student stood up and said good morning sir and then teacher told them to sit down. As usual the teacher asked the class that had everybody done their homework, given yesterday the students at front benches said 'yes' but none of the research respondent said yes. They were sitting quite at the middle of the class bowing their heads down. Here it was noticed that the girls were noticed that the girls were not doing their homework regularly. Then teacher started to teach new chapter writing the name of the chapter at the top of whiteboard. He didn't tell anything to the students who didn't do their homework nor check for homeworks he just asked only that the student has done or not. After that teacher started to do a new problem from a new chapter explaining the steps one by one but none of the responder girls were giving interest to the teacher some were whispering to each other and some were just looking at the white board. None of the respondent asked to the teacher and none of them were seemed to be interested in the mathematics. After completing the example in the white board, the teacher gave a problem as a class work on related topic. Then, the students were engaged on their business, some were doing own self, some were copying from their friends and some were sitting without doing anything. The girls were not doing the problem because none of them were able to solve the problem. They were unable to solve the problem but they didn't ask the teacher that they were getting problem on

solving the given problem. At the same time 3 of the respondent girls went out for something else and rest were interested on murmuring more than the concentration on solving the problem. (September,25th 2015)

Form the observed class it was found that the respondent girls were not interested in the mathematics objects subject they didn't do and show their homework and class work in the class. They were found to be less attentive during the period of mathematics class. So according to Andriyenko A(2010) research article "theories involved on interest based learning." It was found that there was not interest based learning among girls due to which there was not satisfactory improvement in mathematics.

Social Impact

Social impact is another factor of low participation of girls at higher level mathematic education. Whole society as also believed that female is mathematically less capable than male. This belief is communicated by parents and teacher to students. Every child born in society and grow up and he/she learn every mathematical knowledge from the side of society so. According to fallibility's view of nature of mathematics "mathematics stands as the outcome of social process; mathematical knowledge is not far from society it is made by men and exists only in their mind." (Acharaya; 2015) From above this view it is clear that essence of mathematics in not avoid without society.

Our conservative society always dominate girls in every sectors like as education business. Politics, government office, teaching field and home etc. also liberal feminism theory said that girls are strong in every sector but they have not equal chance to show their ability.

According to this theory, it emphasizes to on creating opportunities for women with in the education system. They argue that women also have equal chance to be educated in the same way as men. As a result participation of girls in higher level mathematic is rapidly increased. So I also support to this view befactor there is gender difference in education. The structure of mind is same as male or female.

Different social variables such as social system, cultural customs, and traditional effects of gender biases are the main factors that minimized the girls participation in mathematic.

View of one teacher about effect of society in girls participate he was also a member of this society, he said that. "In olden days, boys were educated to the society but girls were restricted to their kitchen and spent most of their time in helping their mothers in domestic work. This is the traditional effect of gender equity which influences the girl's mental development and achievement." (September,27th 2015)

Teacher view

From above view we conclude that there is significance role of society for participation of girls at higher level mathematics. The political, economical, religious and cultural condition of the society can effect in the study of mathematics education for females. Therefore, mathematics education is very much important for their lives befactor of their social, gender and family roles.

Malinowski (1950), state supported above expression. He emphasizes the influence of social forces. Social phenomena must be considered in their relationship to other aspect considered in their relationship to other aspect of culture. It means that

social factors directly help for participation of girls. Uprety Timseena; Khadka; (2009)

Early Marriage

In Nepal, 40% of girls married by the age of 15. Too often, marriage is seen as a high priority than education (UNESCO, 2002,P. 21). Early marriage, early pregnancy and motherhood responsibility, household work and duties are other aspects for the girls which deprived them of getting the higher education. Girls faced different problems when they married. (Magar : 2012)

Along this line I asked respondent 'A' What is the effect of early married on study? Then she replied that

"It is difficult to manage career and household works for a girl after marriage. It is difficult to manage the time for study and other responsibilities at the same time too. It's really challenging for girls to manage the time after marriage"
(September,28th 2015)

From above opinion, it shows that marriage and time factor are directly related to each other due to lack time and household works, females cannot continue their study after marriage. It can be said that if girls did not get married till the completion of their higher study then it would be easy to develop their career and continue their study as well. She also added opinion along this line and said that

"People think that study is not essential after marriage. We know that female has double responsibility after marriage. She has to care her family members, children and household work and so on. Thus it is difficult for to manage time for study."

That's why many girls cannot continue their study after marriage." (September,29th 2015)

According to respondent 'A' it is a challenge to manage time and good environment for the study after marriage. Further, she expressed her opinion like " If there is a will, there is way (Nepali Proverb: Jaha ichchha, tyaha upaya)". It shows that every person need to have desire, commitment and devotion for the learning.

Next participant 'B' added her opinion on the concerned topic as:

"Early marriage is a problem for low participation of girls at higher secondary level mathematics study. When I was in grade seven, parents forced me a lot for marriage. Fortunately, I got the chance to study till intermediate level. If I was married at grade seven, I could not get a chance to study +2 level. Mathematics is a time consuming subject. But after marriage it is difficult to manage time for study due to household responsibility. (September,30th 2015)

This statement shows that when girls are in their school age, must them have fear of marriage. Fortunately, some girls get chance to study till S.L.C. The tradition seems that parents start to search the candidate for her marriage. After marriage, girls to seem to face many problems like family preventions and restriction pressure of the house hold work and so on.

Chapter- V

FINDING, CONCLUSION AND IMPLICATION

This chapter is basically concerned in deriving some findings and conclusions from the discussion of the previous chapter. Besides findings and conclusion, it has some implication which will be woeful for further studies and educational implication.

Major Findings

The first and second research question forced me to search existing practices on women's Higher Secondary Level mathematics education finding the answer to the first and second question were not a simple task for me.

Studying the literature related to my research study and interaction with the participants , I found different factors which influenced girls' higher level mathematics education. The most influencing factors I found were home environment and social impact.

The following were the major findings of this study, which where categorized into School related and out of school related.

School Related

-) The physical facilities of the School were not sufficient, there were not enough desks and benches, small congested classroom no library and no enough Computers in the School.
-) Teachers "discrimination between boys and girl students in classroom activities. Help low numbers of girl students selects +2 major Mathematics.
-) There was not good interaction between Mathematics teacher and girls.
-) There was no female teacher for comfortable study of girls.

-) Attitudes of Mathematics teacher and school administration is not sufficient positive towards girls Mathematics.

Home Related

-) Poor economic condition of parents is main factor of low participation of girls at Higher Level Mathematics girls getting suitable environment for learning Mathematics at home select major Mathematics and those who could not get suitable environment in their home did not select this subject . As conclusion, suitable learning environment at home is the factor of the low participation in Mathematics.
-) Parents do not give importance of girl's education as that of boys.
-) At home, girls have less opportunity for study than boys do and they have to give more time for house hold activities as daily service so, they could not do well in major Mathematics.

Interest of Girls

-) Girls and parents having strong interest towards Mathematics choose major Mathematics, where as those who think Mathematics as a complex subject did not choose major Mathematics. Hence girls and parents individual interest towards Mathematics would be the factor of low participation of girls in major Mathematics.
-) None of the students respondent was found to be interested in studying Mathematics befactor from the time of bridge course they felt Mathematics as hard subject and disliked it so, girls could not improve their Mathematics learning and interest on it.

Social Impact

-) Culture and harmony of each society is different which effect girls participation in every social activities.
-) Girls have to get married very soon so they should know the household skill than the mathematical knowledge.
-) Our society unequally treats boys and girls.
-) Female has the inferior place in the society.
-) No prestige is given to the female mathematics teacher.

Conclusion

Mathematics is a gateway to many areas of further study. The participation of girl's students in higher level mathematic education at Surkhet district is very low. Society as a whole believed that Female is mathematical less capable than male. Low participation of girls in higher level mathematics education is most danger problems in present context befactor without higher studies knowledge of girls development become handicapped most of the students fail in this subject. This is another factor of low participation. But which factors/factor impact to high participation of girls at +2 level mathematics education? These researches try to give answer of this question. On the basis of major findings I have came to conclude that although the building of school was concrete and well financed but school was not able to provide the physical facilities to the students, there were insufficient benches and no desks in the classroom. The attitude of mathematics teacher is not positive toward girl student's, As a result girls are not interested to read major mathematics at higher secondary level. Mainly learning environment and parents economic condition determine the participation of girls at higher secondary level mathematics .

Implication of the Study

In the context of Nepal, many students fail in mathematics and the trend is still in continue due to this there were the less participator in mathematics related field. In public school the number of girls is higher than the boys but while in selection of optional mathematics in +2 is less number of participation of girls than boys. The conclusion of this study cannot be generalized to all students (public and private) and to all areas (rural and urban) due to the limitations contained in this study. Almost of the girl students are weak in mathematics and they do not take the subject major mathematics. So, improvement is needed in all mathematics education programs for girl students. Research should be focused in this area. Participation f girls at higher level mathematics is comparably less than boys.

The government has taken responsibility to rise the economic condition of the parents. government should properly manage women participation in every sectors by using special package . School should provide special types of scholarship to girls. This study help to increase girls participation in higher level educations.

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Appendix –A

Guideline for Interview with Higher secondary Math Teachers

Date of Interview : Religions:-.....
Name of teacher :- Ethnicity:-
Qualification :- Age :-
Trained/ untrained :- Sex:-
Teaching experience :- Address :-
Ward no -

The Interview with mathematics teachers will take the following topic.

teaching strategies of mathematics.

Home environment

School environment.

Girls achievement.

Interview of question for math teacher

1. What was the activities showing by girls while your are teaching?
2. What is the factor that affects girls students participation in mathematics
3. Does the teacher's qualification affect on the girls participation in mathematics? how ?
4. What do you think about the girls students interest in reading mathematics?
5. Is the teacher behaviour of cooperation help to increase the girls participation in mathematics?
6. What will be the factor of the low participation of girls students in mathematics?
7. What kinds of facilities did you provide in your school ?
8. What was the psychological impact on girls participation at higher level mathematics.

Appendix A I

Interview Questions

interview questions for respondent girl s Students

Date :

Name of Student :-

Class :-

Roll. No :-

Address :-

Home Environment

- How long did you work at home?
- How many members are there in your house?
- What do your father and mother do?
- Are your parents educated?
- Are they fulfilling your all necessities?
- Do you have enough learning materials for mathematic?
- Does your parent ask you to study at home?
- How long do you study at home?
- Do you have separate room for study?
- Do you feel that your parents discriminate between you and your brother?

School Environment

- Are you coming to your school regularly?
- How many students are there in your class?
- Are there sufficient desks and benches in the class?
- What extracurricular activities are conducted in the school?
- Are there separate toilets for girls and boys in school?

- How do teacher behave with you?
- Do you find any difference between behaviors of teacher towards you and other students?
- How is your relation with other students in the class?
- Has any student behaved bad in the class and in school territory?
- Is there any extra class in the school for mathematics?

Interest of Learners

- What do you like must to do?
- What are your hobbies?
- Do you like math subject?
- What is your favorite subject?
- Do you feel mathematic is an important subject?
- Are you always participating in math class discussion?
- Are you performing your class work and home regularly?

APPENDIX-AII

Interview Questions for Parents

Date:

Name of Parents:

▪ Father :-

Age :-

▪ Mother :-

Sex :-

Qualification of parents:

▪ Father :-

▪ Mother :-

Address :-

- How many children do you have?
- What is your occupation?
- What is yours main source of income?
- Do you feel necessary to teach your daughter?
- Has your daughter refused go to school?
- Do you ask your daughter to study at home?
- Have you provided separate time for them to study at home?
- Does your daughter work in the house?
- Does she work out of the house as labour in daily wages?
- Have you asked about her educational progress in school?

APPENDIX-B

Observation Form for School Environment

Date :

School's Name :

Time :

Address :

1. Location of school
 - a. Noise around the school surrounding.
 - iii. Peace
 - ii. Noisy
 - iii. Very noisy
 - b. Habitation around the school.
 - i. Densely populated
 - ii. Thinly populated
 - iii. Absent
2. School sanitation and cleanness.
 - i. Good
 - ii. Satisfactory
 - iii. bad
3. Availability of physical infrastructures (desks and benches).
 - i. Satisfactory
 - ii. Average
 - iii. Dissatisfactory
4. Class work and Homework.
 - i. Sufficiently given
 - ii. Average
 - iii. Not given
5. Extra classes for low performer.
 - i. Always
 - ii. Sometimes
 - iii. Never
6. Behavior of teacher.
 - i. Discriminatory
 - ii. Non-discriminatory
 - iii. Cooperative

APPENDIX-BII

Observation Form For Each Respondents of the Study

Date :

Name of Respondent :-

Time :-

Address :-

Home Environment

| | High | Medium | Low |
|--|------|--------|-----|
| Observation Area | | | |
| Parents support for learning | | | |
| Learning Environment and opportunity at home | | | |
| Availability of textbooks and copy and other materials | | | |
| Regularity of student | | | |
| Financial support from parents | | | |
| Availability of the separate room to read | | | |