

Chapter – I

INTRODUCTION

Background of the Study

The knowledge of mathematics is an essential tool in our society (Barony, 1987). It is a tool that can be used in our daily life to overcome the difficulties filled used (Bishop, 1996). Mathematics has been considered as one of the most important core subject in a school curriculum. More mathematics lessons are likely to be taught in schools and college throughout the world than any other subject. However, the standard tests and evaluations never that student donot perform to the expected level. The student under achievement in mathematics is not just a concern with mathematics which is related to gender based learning that why the girls have low achievement in mathematics and which factors are responsible for their achievement.

Gender difference in learning mathematics continued to attract researcher in recent years. Women's education has very short history in many counties. Difference in educational opportunities available from male and female are clearly illustrated literary rates of male and female of are clearly different societies. The effect of gender difference education is visible in literary rate of our society. Subsequently, the question of gender equality in mathematics education is complex issue. Although boys and girls take the same courses and read same text book of mathematics in school, there is significant difference in their achievement. Gender parity in formal education can be sensed in terms of literary rate of male and female. In the case of Nepal (statistics pocket, 2011) literacy rate of female is 57.4% whereas male literacy is 75.1% this kind of difference shows one instance of unequal access to educational opportunities to male and female in the country. Earlier studies have proved that some

of the social variables such as social system, culture customs, economic condition and traditions effect gender equity.

According to recent reports, the Nepali living standards survey 2010-2011 (NLSS-III) has found out that Nepal has as adult's literacy rate of 56.6 percent with a huge variation between men and women. While male literacy rate is 75.6 percent, it is only 44.5 percent for women. According to the Education for All Global Monitoring Report 2011, out of 7.6 million adult illiterates in Nepal, 67 percent are female.

A growing body of research provides additional factors which could have an impact on student's achievement such as gender, family structure, parents and students' attitude towards school and parent involvement (Campbell, 1998). Three factors of predictors in mathematics achievement are divided into sub factors. Demographic factors (gender, social-economic status, parent's education level). Instructional factors (teacher competency, instructional strategies and techniques, curriculum, school context and facilities), and individual factors (self-directed learning, arithmetic ability, motivation).

Achievement of girl's is less than boys in mathematics. In the context of Nepal women are found comparatively behind the men in all most all spheres of life due to patriarchal social structure, cultural traditions, religious practices, social attitude and deep-rooted gender discrimination. The existing social outlook that women are completely dependent on men, has created various obstruction to their all-round development. Therefore, to provide equal opportunity for all development of men and women, the existing social situation needs to be changed. Women are regarded as second-class citizen of the society and they are supported to be home keepers. The duties of women are to serve home and male member of the family. To increase

female literacy rate in the country, government should seek to create awareness of the importance of girl's education in targeted area.

In this context, the policy maker, administrators, parents, teachers and students themselves must be aware about the achievements of mathematics. The low marks and the low pass percentage in SLC level students have raised questions in the mind of many concerned people about the national goals of education and objectives of teaching mathematics at secondary level. These are also curious to know the factor responsible for such a low performance. There are a lot of factors which have affected on achievement of girls in mathematics at secondary level.

School mathematics curriculum of Nepal is relevant and useful to daily life. This can be known by objectives of mathematics curriculum. But there are so many people who said that it is not relevant and useful of daily life. Mathematics and daily life cannot be separate, without mathematics daily life is impossible. This study is mainly intended to compare achievement of boys and girl's students of secondary level. In 2064 B.S. the achievement of boys was 41.61 % where as 28.38 % in girls. In 2065 B.S. the achievement of boys was 62.66 % where as 52.87 % in girls. In 2066 B.S. the achievement of boys was 44.32 % where as 33.64 % in girls. In 2067 B.S. the achievement of boys was 21.42 % where as 17.14 % in girls. In 2068 B.S. the achievement of boys was 25.79 % where as 15.53 % in girls. Therefore, from the last five years SLC results clearly shows that girls' achievement is nearly 10 % less than the achievement of the boys (Chataut, 2014).

There is increasing number of girls' enrollment in school but the achievement of student in mathematics is very poor. The condition is most worse in case of girl's. The girl's achievement in mathematics is in critical situation without many national level reports have been shown the report in favors of girls. There may be

many causes behind it. The family related factors, school related factors, social factors and personal related factors may be one of the major factors behind the low achievement in mathematic. Thus, this study tries to identify the factors affecting girls' achievement in mathematics.

Research Questions

In a modern society, life is nothing without education. Especially mathematics is very essential subject and also practical in life. Mathematics is needed in daily life and also for higher study. Scientific development also depends upon the mathematical knowledge.

This study is related to the factors affecting girl's achievement in mathematics. So, it has been considered as a case study. The research questions of this study as shown below:

- What are the factors that affect mathematics achievement of girl's students?
- How does the school administration can minimize & removed the affecting factors?
- What are the suggestive measures for the improvement of mathematics achievement of girl's student?

Objectives of the Study

The following were the objectives of the research.

- To explore the factors affecting the girl's achievement in mathematics
- To identify the strategies taken by the school administration to improved girl's mathematics achievement.

Significance of the Study

Government of Nepal has announced the slogans "Education for all" by 2015 AD (SSRP, 2066). To meet this goal, different programs (Formally or informally) have been conducted to every district. But still there are huge group of people who are out of the access of education. There is no any research have been done based on the problems why girl's students can't be success in mathematics. Researcher had tried to investigate and find out the factor affecting on achievement of girls in mathematics at secondary level. The significance of the study is pointed out in the following:

- This study would help to improve mathematics achievement of girl's students and it would provide useful tips to improve the mathematics learning
- This study would help to mathematics teachers for effective teaching.
- This study would help to minimize failure rate in mathematics.
- This study would be helpful the curriculum designers to design the curriculum according to the need, level and ability of learner.
- This study would helpful for students to be aware of the main problems of the mathematics to adopted required strategies for the improvement.

Delimitation of the Study

The delimitation of the study is as follows:

- The study was limited to the public schools of Dhankuta district.
- Only the head teacher, subject teacher, parents and students of case school were considered as the respondents in this study.

- This study is based on qualitative analysis.
- This study was conducted on only one secondary school of rural area of Dhankuta District.

Definition of Key Terms

Students:In this study student refers to those who are enrolled in secondary level in academic year 2073.

Institutional school: It refers to the school controlled and financed by individual or group appears

Public school: Public school refers to the school controlled and financed by the government of Nepal.

Class size:Number of students in mathematics class is considered in this study.

Achievement:Achievement in this study is defined in terms of score obtained by the students in their school exam.

Factors: The term 'factors' is defined as the thing that causes or influences in the achievement line family factors, school factors, social factors and personal factors.

Chapter–II

REVIEW OF RELATED LITERATURE

To conduct an effective research, researchers are required to be familiar with related literatures, theories, reports, articles, education policies and programs that help in conceptualizing the problems, conducting the study and interpreting the findings. This chapter deals with the related literature about the participation of girls in mathematics learning. It discusses various studies carried out by various scholars including ongoing dialogue relating on the participation of girls in mathematics learning. Review of related literature is an exacting task, calling for a deep insight and clear prospective. The main purpose of review of related literature is to find out what works have been done in the area of the research problem under study and what has not been in the field of the research study being under taken. The review of related literature helps to make the concepts clear for the study and directed to analyze and interpreted the data. This chapter also includes a conceptual framework adopted for the study.

Review of Empirical Literature

Shrestha (1991), has conducted a study on the topic “A study of sex difference in mathematics of ninth grade students in Gorkha District” with the objective to determine the sex influence achievement in mathematics. He prepared two sets of tools, which are achievement test, questionnaire and administered them to two hundred eighty students of five schools. He applied t-test and concluded that boys devoted more time than girls at home for mathematics together with all subject and boys performed better than girls in mathematics achievement.

Ghimire (1997), studied on " A study on factors affecting teaching and learning mathematics at secondary level" with the objective to explore the factors affecting of school's mathematics in terms of school environment, family background, motivational factors, physical facilities, interest of the learners, instructional materials. The tools for the study were administered to the sample of 90 students and the data was analyzed by using t-test. He concluded that environment of the school in rural and urban areas affect equally but boys are more affected than the girls. Likewise, environment affect more to the subject of rural areas and girls are affected more than boys. He was also finding out that motivation, students interest, instructional methodology and materials also effect on the teaching and learning mathematics.

Joshi (1997), did a study related to determinants of achievement in mathematics entitled "Determinants of mathematics achievement of grade x students." among 431 male students and 423 female students. He analyzed mean difference between boys and girls in the mathematics achievement scores. The achievement scores of boys were higher than that of girls in all tests and sub-tests in arithmetic, algebra and mathematics when variability of score was compared. Girls were found to be more variable than boys on all the sub-tests although difference was significant in the test and algebra sub-test

Subedi(2005), did research work entitled "Factors affecting failure in mathematics in SLC examination" with the objective to measure the effect of school and out of school central factors in mathematics achievement in SLC examination and to determine the correlation between affecting factors and mathematics achievement, locating in sirahadistrict. He concluded that the school environment such as, number of students in the classroom, classroom environment and regularity of teacher had strongly positive effects on student's mathematics achievement. Effective classroom

teaching such as pleasing environment. Initiation of lesson, use of instructional materials, appropriateness to teaching, participation to discussion, teacher's activities had strongly positive effects on student's mathematics achievement. Time variable i.e. duration of time, students spent out of school activities such as leisure reading, homework, discussion with peer had strongly positive effects on mathematics achievement

Janwali (2007), did her research entitled "A study on causes that affect mathematics achievement of girl's students" with the objective to determine school related factors and out of school related factors which affects the mathematics achievement of girl's students and to determine the correlation between affecting factors and mathematics achievement. The tools for the study were administered to the sample of 50 students from rural and urban area of Rupendahi district and mean, SD, correlation coefficient and multiple regressions were used for the analysis of data and found that mathematics achievements of girl's students were strongly positively correlated with peer's behaviors, effective classroom teaching and The teacher's behavior and family background were also had some positive effects on mathematics achievement of girl's students.

B.K (2010), did a research entitled "Causes of low achievement in mathematics of grade x students" This was a case study based on qualitative research design and descriptive in nature. Main objectives of this study were to find out the causes of low achievement in mathematics of grade X students. School documents, observation notes and interview guidelines were used on the tools of this study. All the students of Kailali district of grade x were the population of this study. Among all school of Kailali district, Saraswoti Mavi, Darganli were selected and from this school, 6 boys and 6 girls of grade X were selected as the sample of this study. The collected

information from class observation, interviews and school's records was first categorized and then different themes were given. There will be considered as a code and similar code version of the respondents was collected together and was explained in their perspective's. Cross math was adopted to maintain the validity and reliability of the results of the study.

After the analyzing and interpretation of data, the researcher found that the financial condition, parent education, irregular checking home work by teacher, negative attitude of mathematics for learning, poor physical condition of school i.e. no proper drinking water, no enough teaching material, no qualified and trained teacher, lack of library are the major causes of low achievement of mathematics of grade x in Kailali district.

Upadhyay (2010), Advocated that females are very backward in comparison to male with respect to educational development. There are many causes of backwardness of females than males among them, social factors are one. Female could not educational and social equality for a long time. Researcher found that gender difference in math achievement has declined. However, gender difference skill preparatory courses that are considered essential to acquiring the foundation for future study of advanced mathematics.

Sapkota (2012), has identified some significant factors about learning math of girls. This study focuses on the "factor effecting learning mathematics of girls". This was a survey type study that attempts to analyze the factors affecting learning mathematics. This study was conducted among ten public school which were selected randomly from all public schools of Kailali district includes rural and urban areas. One set of opinion scale was prepared and distributed to the students to find out the effect of teaching learning process, home environment, social variable, time variable

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

From the above review, there have been made many researches on achievement of different ethnic groups, factors affecting learning mathematics and causes that affect mathematics achievement. From which the researcher has found that there are many factors such as culture, physical facility and home environment, teaching learning process, motivation and teacher interaction are the influencing factors in learning mathematics. From the above research study, it is clear that mathematics achievement of students is low and there are so many factors which affect achievement of students in mathematics education shows that factors affecting girl's achievement in mathematics had been done in the study area in quantitative research but not qualitative research in this topic.

Theoretical Review

Understanding intervention from the perspective of social theories provides valuable insights on the issues related to factors affecting girl's achievement of girl students. The focus of this research is to analyze their educational background; two theories are relevant to this research.

Feminist Approach: Feminist approach comes into existence with the dissatisfaction toward sociological theories and subordination of women in various fields. The societal conception about women that they are intellectually and physically incapable

in comparison to men had influenced in their participation in education and employment. Feminists want to develop theories to address the issues in women's development and delineate their role in developmental activities.

Feminists argue that mathematics is a male-dominated subject that explains everything from the new point of male behind female and feminist perspective is most to understand the subordination and exploitation of women by men. It argues that women are excluded from the domain of mathematics, thus masculinity remains privileged. Feminists argue that only including or adding women in the domain of mathematics does not serve the purpose of understanding women or justify the absence of women's presence in mathematics. They further claim that the biological differences between men and women do not explain their roles in the classroom rather it needs to be understood as socially constructed (Adkins, 2005). Likewise, feminist theory seeks to speak the experiences of women, to understand reality from the viewpoint of women, to ask questions that relate to women's lives, and to uncover the systematic biases and distortions in male-stream knowledge. They admit that there are anatomical differences between boys & girls but what is important are the ways in which girls & boys are socialized and brought up, how they are treated and interacted and the ways they are taught the appropriate behavior.

Constructivist Approach: Constructivism is basically a theory based on observation and scientific study about how people learn. People construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences, when we encounter new, we have to reconcile it without previous ideas and experiences may be changing what we believe, or may be discarding the new information as irrelevant.

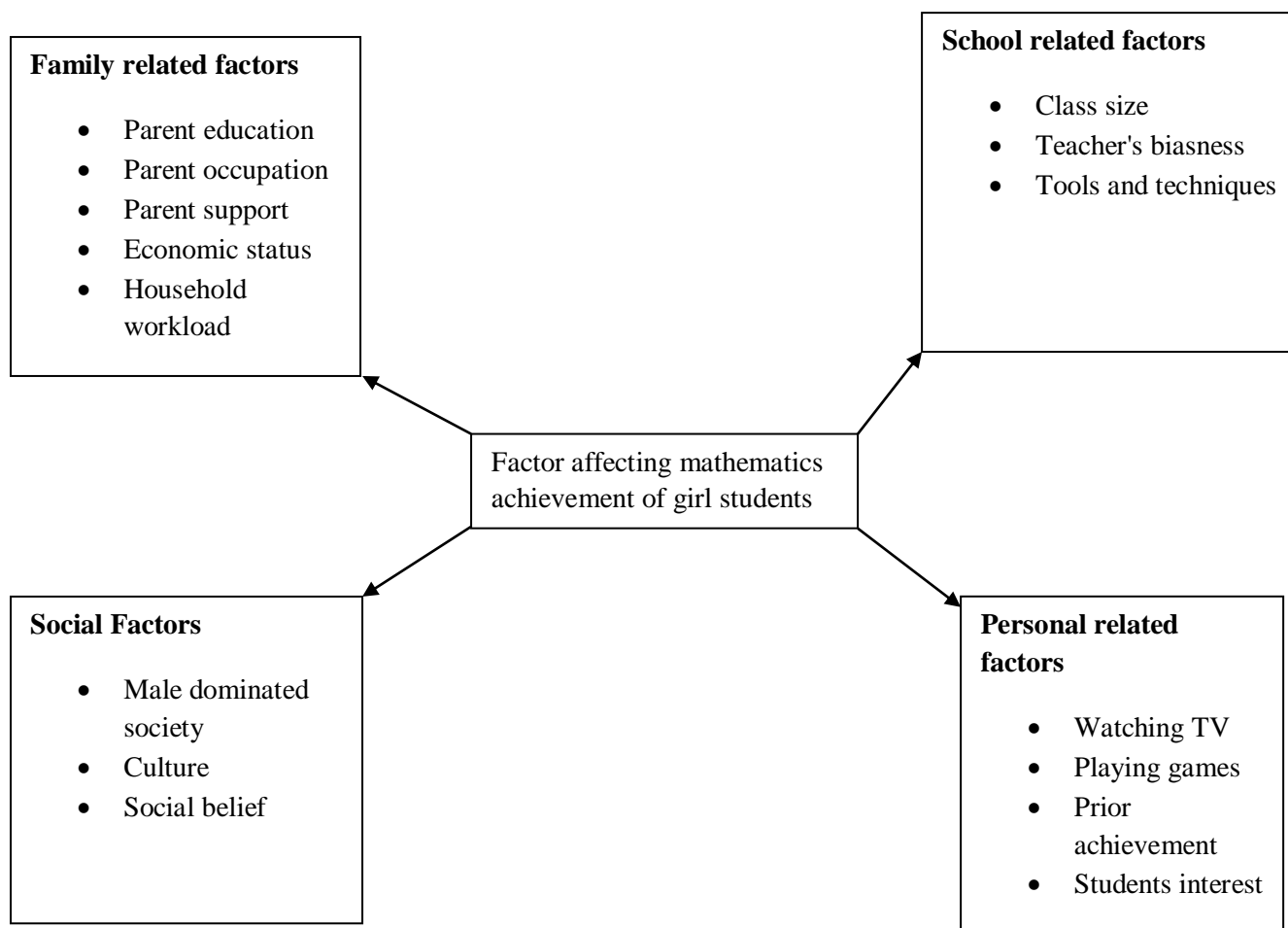
Constructivism transforms the students from a passive receipting of information to active participation in the learning process. Always guided by teacher, students construct their knowledge actively rather than just mechanically investing knowledge from the teacher or the text book. Students become engaged by applying their existing knowledge and real-world experience, learning to hypothesize, testing their theories and ultimately drawing conclusions from their finding. Constructivism stands on its three axioms that are as follows:

- Learners learn knowledge from their active participation
- Learners gain knowledge while reflecting on their own action and
- Learners gain knowledge when they try to convey their solution to other.

Conceptual Framework

A conceptual framework covers the main features like aspects, dimensions, factors, variables of a study and their resumed relationship. Generally, a conceptual framework is presented either in graphical or narrative forms which depicts brings clarity and focus to see and organize the research questions more clearly.

From the above review of literature and the theoretical understanding, the researcher has to come about the research little factor affecting on achievement of girl's student at secondary level has been felt untouched. But, the above-mentioned literature helps the researcher to save the research and draw meaningful conclusion review of those literature give some conceptual understanding about the factor affecting learning achievement of girl's students at secondary level. By reviewing the above literature, some factors are supposed to be factors affecting the girls' achievement in learning mathematics. Therefore, to conduct this study in context of this society, the conceptual framework is presented below:



The parental education, parental occupation, parent support, Economic status, class size, teacher's biasness, tools and techniques, male dominated society, culture, social belief, watching T.V., playing game, Prior achievement and students interest are some hypothetical factors affecting the achievement of girl students. Nepal has a male dominated society. The son or boys is more emphasized to girls may negatively affect in mathematics learning. Gender biasness in classroom as well as in home may cause less encouragement to girls than boys and on the other hand the workload of girls is higher than boys in home. Hence the learning environment of girls is less favorable than that of boys to select mathematics.

Chapter – III

METHODS AND PROCEDURES

Research methodology is a scientific approach which deals with the systematic procedure of collecting data. This chapter deals with selection of the study area, research design, sample of the study, tools, data collection instrument, data collection procedures, data analysis and interpretation procedures.

Research Design

Research design is the way and path of the research that guides the researcher to reach the goal of the research. The study is designed as the case study, related to factor affecting girl's achievement in mathematics which is qualitative and descriptive in nature.

Sample of the Study

The present research work is a case study about "factor affecting girl's achievement in mathematics ". First of all I visit selected public school Shree Shreeman Tanka Secondary School at Dhankuta district and the total number of participants in the study consists of ten girl students in grade IX.

Study Area/Field

Every study needs study area , In this regard , Shree Shreeman Tanka Secondary School of Dhankuta district was study area for this study.

Tools and Techniques for Data Collection

Research tools are designed to collect a certain type of evidence or information. Regarding collection of data, Best and Kahn (1999) said "Qualitative methods consists of three kinds of data collection in-depth interview, open-ended interviews, direct observations and written documents" (P.184). Similarly, Ritchie and Lewis (2003) stated, main Qualitative methods include observation, in-depth individual

interviews, and focus groups, biographical methods such as life histories and narratives and analysis and text" (P.4). Therefore for this study the following tools were used to collect the data .

Interview Guideline

The way of having face to face conversation in specific subject matter between more than one person is called interview (Poudel, 2014). It is done to get the real and actual data from the research area. It is more important because it gives real and actual information for the research study.

In this study open ended semi structure interview was used where participants use their own words and develop their own thoughts. Prior to visiting the field, interview schedule was developed with reference to research objectives and guidelines of previous researches.

The information from interviews consists of direct questions, from the respondents about their experience, opinions, feelings and knowledge. In this research interview was conducted with mathematics teacher, Headteacher, girls students and parents.

Observation form

During the observation period researcher visited to case school and observed mathematics class regularly for two weeks. I used a set of observation form to observe classroom activities of respondents. The observation included classroom interaction, students and teacher behavior, attendance, class work, used teaching materials and learning environment on the basis of objective also used non-participant observation such as home environment. The observation was done by sitting in the classroom where researcher could watch, listen, interact and record the essential data from the subjects. In observation period researcher was limited to concept framework.

Data Collection Procedure

The researcher collected data and information by using interview schedule and classroom observation form. The school record was studied SLC result of last four years of these school physical facilities, student -teacher profile and other relevant documents. The interviews were taken to the girl students, corresponding parents, mathematics teacher and head teacher. All replied noted during the course of interview most of the socio- economic information literary or education status of parents and formations about the home environment, parents support was retrieved from the interviews from the parents.

Two weeks of class observation was done for the qualities data. The researcher had observed the responds class in those days. Based on observation from the researcher had observed the behavior and activities of girl students and corresponding teacher during teaching learning activities in mathematics classroom. On the observation note the participant of the students, attendance of the students, their homework, assignment and their performance in the subject matter, their difficult in learning, use of teaching materials, procedures strategies, class management and the whole environment of the classroom were carefully noted.

Data Analysis Procedure

In this study, the data analysis was descriptive in nature. The collected information at first was categories according to the category of the respondents and their different themes were given in the text of interview and observation. These themes were considered as code the similar code version of the respondent were collected together and explained in their perspective. The data analyzed were interpreted by using the framework of the research developed in literature review together.

Chapter- IV

ANALYSIS AND INTERPRETATION OF THE DATA

The data collected from the different sources were analyzed and interpreted to find out the factor affecting on achievement of girls in mathematics at secondary level. The researcher observed the classes regularly for two weeks. Direct observation was done every day in the classroom and the classroom behavior of students and teacher carefully. It was observed by different outlook of sitting and noted. The interviews were conducted with focused students, teachers, head teacher and parents of case school. The interactions with the respondents were carefully listed and noted properly. Student attendance, regularity and other behavior were records. The researchers observeschool environment and interviewing with head teacher as well as document analysis of the school. The collected information of first was categorized according to the category of the respondent and then different themes were given in the text of interview of the observation note. These themes were considered as code and the similar code versions of respondents were collected together and explained in their respective. The base of this study was focused on family related factors, school related factors, and society related factors and personal related factors. These factors were respectively described in this chapter.

Introduction of Case School

Shree Shreeman Tanka Higher Secondary School is one of the oldest school of Dhankuta districts. It was established as primary school in 2011 B.S. The school was upgraded in 2015 B.S. as a middle school and 2026 B.S. as a secondary school. The school was appeared in SLC since 2026 B.S. This school was downgraded to lower secondary school in 2028 B.S. Again, this school was upgraded in 2041 B.S. as a

secondary school. The school was appeared in SLC since 2041 B.S. The school was upgraded in higher secondary in 2068 B.S. Now this school in runinghaving play group to 10+2 level.

This school area is spread of 30 ropanis and 3 bigha in Tarai. There are six building, six toilet room, 13 classroom, two drinking water tanks with four taps. One Karnal Bhakta Bahadur's salic. School is almost compounded with brick and stone but entering gates are open.

The school mainly deposited from lower and middle-class family background. There are different castes living in bhirgaun around the school. Such as chhetry, Brahmin, janajati and dalit etc. Their own native language having their own culture. From the school records 99 percent students of the school area from local community. Almost all people of this area depend on agriculture and some are busy on other professional work and some are in foreign country.

Enrollment of Class –Wise Students of the Case School

The following table represent the enrollment of student in case school Shree Shreeman Tanka Secondary School.

Table No. 1**Enrollment of class-wise students of the case school**

Class	Boys	Girls	Total	Girls%
1	12	12	24	50
2	9	6	15	40
3	11	11	22	50
4	16	19	35	54.28
5	8	15	23	65.21
6	34	40	74	54.05
7	35	36	71	50.70
8	34	46	73	63.01
9	23	28	51	54.90
10	15	22	36	61.11
Total	197	235	432	

Source: School documents

This table shows that there are 432 students were 235 girls and 197 are boys. When we are compare the number of boys and girl, number of girls is more than boys by 38. The highest number of student is class six in this school. There are 74 students in this class where 40 are girls and 34 are boys. The lowest numbers of student in this school are in grade three. There are 22 students in this class. Where the number of boys and girls are equal in this class.

Also, this table shows that in class 5 girls are large in number where as in class 2 they are low in comparison to other classes. The percentage of girls in class I, III and VII

are almost same. The trend of girl's students enrolled in these classes is slightly increasing in order. The above table shows that the number of girls in each class is almost same. In class 4, 5, 8,9 and 10 are higher than the number of boys in respective classes whereas in other classes the number of students (boys) is higher than the girls.

Demography of Secondary Level Teachers

The details of teacher's qualification, gender, training and status are presented in the table below:

Table 2
Demography of Secondary Level Teachers

S.N.	Name of teacher	Posts	Qualification	Teaching subject	Training	Remarks
1	BasudevNiraula	Head teacher	Bed	Math	Yes	Permanent
2	BholanathBhattarai	Teacher	Med	Social	Yes	Permanent
3	JamunaKuar	Teacher	Med	English	Yes	Permanent
4	BimalDahal	Teacher	Med	Science	Yes	Permanent
5	Tika Acharya	Teacher	Med	Economic	Yes	Temporary
6	SarojDahal	Teacher	Bed	Math	Yes	Permanent
7	Narayan Prasad Guragain	In charge	Bed	Population	Yes	Permanent
8	DurgaDahal	Teacher	Bed	Math	Yes	Permanent
9	LaxmiGuragain	Teacher	Med	Nepali	Yes	Temporary

This table shows that the number of secondary level teacher is sufficient. There are nine secondary level teachers whereas four are female teachers. Most of the teachers are qualified and trained teacher teach in this school. SLC result of last four years in this school as shown below:

Table No. 3**SLC Result of Last Four Years**

Year	total No. of student appeared in SLC	Pass student	Pass %	Total No. of girls appeared in SLC	Pass girls	Pass %
2068	50	2	4	23	1	4.34
2069	53	4	7.54	30	2	6.66
2070	51	21	41.17	18	3	16.66
2071	62	11	17.74	34	7	20.58

Source: School Examination Branch

Above table shows that there is large number of girls appearing in SLC examination but only few have been passed. The SLC ledger of the school shows that most of the students have been failed in mathematics.

SLC result is not satisfied in this school, learning environment and other facilities are as shown below:

Learning Environment of School

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

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

The school is in peaceful area near the forest to there is no noise from outside the school. In the school, there is big and small playing ground, computer class, library, storeroom, enough playing area, sufficient drinking water supply, materials, magazine toilet. School conducts different types of physical and mental extra musical activities that help to pupil to build up their career.

Other facilities of this school as shown below:

Scholarship Program

School distributes the scholarship for those students who are talent, economically poor, Dalit, handicap students, girls and janajati. According to the head teacher school also provide a scholarship to students who obtained the distinction marks in annual board examination from each class.

Educational Tour

This school selects those places which are culturally, geographically, industrial, historically important. School invests Rs. 20,000.00 per visit and rest of the cost should be managed by students themselves. Students of grade 9, 10, some teacher

and some member of SMC go to educational tour each year but some of students can't attend the tour due to the financial problem of their own.

Library facility

There is no well management library room with sufficient books. So, all students are not getting library service. Students who are interested in studying other books come to office and take extra books from related teacher according to school teacher's girls talking about themselves and play game and use mobile. This shows that they have less interest to study rather than playing.

Cafeteria Service

Cafeteria service is not provided inside the school compound and students go outside to take lunch. Most of girl students spent tiff in time by conservation, playing games etc. and by chatting about out of study matter. But other students go to hotel to take lunch. This shows that girls have not enough money to spend.

Teacher- Parents Conference

This school organized the teacher parent conference once a year. Child's behavior at home, homework, class work, regularity of students, students' performance, admission fee, tour fee, scholarship program, budget of school and extra classes is the topic of discussion. According to head teacher in teacher-parents conference some parents does not comes because they said that they have to work at field and at home. It is the lack of importance of education and poor economic status of family.

Introduction of Case Students

A: The respondent is a 13 years old girl student. She lives in Dhankuta municipality 11, Dhankuta. It takes 1 hour to reach at school from the home. Her future aim is to be a nurse. Nepali is her favorite subject. There are three family members in this house and they all believed in Kirat religion. She was known as a disciplined girl in the school. Her parents are uneducated. Her family economic status is poor. Her father work in foreign country and mother is a farmer and house holder. She always sits with her girlfriends in class. She needs to help her mother in cooking meal for morning and evening and cleaning dishes; washing clothes and brings drinking water. She said that she had less interest in mathematics. Her performance in mathematics is average.

B: The respondent is a 15 years old girl student. She admitted in this school in grade VI. Her future aim is to be a Doctor. English is her favorite subject. She attends school regularly. Her class position is first. She takes mathematics is interesting subject. Her performance in the mathematics is good. Her father works as farmer and mother is a teacher. Her family economic condition is good. She helps her mother and father in household works. Although, she involved in household activities she manages time for study. Her parents provided her whatever she needs in study and encouraged as well.

C: The respondent is a 15 years old girl student. It takes 15 minutes to reach in school from her home. All members of her house followed the Hindu religion and speak Nepali language. Her main aim in life was to be a good teacher. Her interested subjected is Nepali and Mathematics. English and Science was the subject she was not interested. Her father is farmer and mother is housewife. Her economic condition is medium. She helps her mother and father in household works. Her performance in mathematics is average. However, her parents are uneducated, they provided

education for their children. She thinks teacher gave reward and punishment equally both girls and boys on same condition.

D:The respondent is a 15 years old girlstudent. She has been studying in this school since class VI. Her father works in foreign country and mother is a teacher. Her parents are educated. Her family members believed in Hindu religion. It takes one hour and 30 minutes to reach in school from the home. Her future aim is to be nurse. She always sits on second bench in the corner. Her favorite subject is Nepali. She said that teacher ask the question and reacted the boys and girls in equal. In her view, teacher does not behave differently boys and girls. Her parents encourage her to study. They provide all the necessary educational materials. The learning environment is also satisfactory in home. In her view household work, festival and culture effect on her study.

E: The respondent is a 15 years old girlstudent. She had been study in this school since grade nine. It takes one hours to reach in school from the home. All members of her house followed the Hindu religion and spoke Nepali and Newari language. There were five members in her family. Her main aim in life was to be a good teacher. Her interested subject is Nepali. She takes mathematics as a hard subject. Her father and mother run a business. Her parents are uneducated and economic condition is low. She helps her mother household work. She involved household activities and managed time for study. She assumes teachers treats boys and girls in equal. She says that culture effect on her study.

F:The respondent is a 15 years old girl student. She had been studying in this school since grade one. It takes 30 minutes to reach in school from her home. There were six members in her family. Her family believes in Hindu religion. Her interested subjected is science in school and her aim in life is to be a teacher. Her father is

teacher and mother is housewife. Her parents are educated so that they encouraged him to continue her study. Economic condition is good in her family. Learning environment at home is satisfactory. Her parents frequently visit school regarding her study. Her father believes that the culture of feast and festivals effect on her study.

G: The respondent is a 15 years old girl student. It takes one and half hour to reach in school from the home. Her aim is to be teacher in the future. His father is a farmer and mother is housewife. Her family economic condition is low and her parents are uneducated. Her performance in mathematics is poor. She is one of the poor students in the class. She asks friends when she had problem in mathematics. Sometimes she helps her mother in household works. Her parents frequently go to school to consult about it with the teacher.

H: The respondent isa 15 years old girl student. It takes one and half hour to reach in school from the home. There are seven members in family in her house and they all believed in Hindu religion. Her parents were uneducated. Father is a farmer and mother work in the house as a housewife. Her interested subjected is social studies in school and her aim in life is to be a good teacher. Tulsa said that she had less interest in mathematics. Learning environment at home is satisfactory. Her parents frequently visit school regarding her study. Her father believes that the culture of feast and festivals effect on her study.

I: The respondent is a 15 years old girl student. It takes half an hour to reach school from the home. There are eight members in her house and they all believed in Hindu religion and speak Nepali language. She was known as a disciplined girl in the school. Her interested subject is Nepali in school and her aim is to be a teacher. Her parents were engaged in agriculture. Her study environment is satisfactory. When she gets problem in mathematics then asked with her elder sister. Her performance in

mathematics is average. However, her parents are uneducated they provide education for their children. She thinks teacher gave reward and punishment equally both girls and boys on some condition.

J: The respondent is a 15 years old girl student. It takes use and they all believed Hindu religion. All family members speak Nepali language. She was known as a disciplined girl in the school. Her interested subject is Nepali and her aim of life is to be a teacher. Her parents are uneducated and engaged in agriculture. She has good family environment to study. Her family economic condition is average. Her family encourages her to study. They provide all the necessary educational materials.

Table No. 4

Results of Respondents of Last Year

S.N.	Name	Subject				
		Math	English	Nepali	Social	Science
1	A	28	46	55	50	45
2	B	55	84	82	67	72
3	C	40	35	45	40	43
4	D	40	35	45	40	43
5	E	20	41	55	43	44
6	F	44	61	82	65	85
7	G	25	36	55	56	40
8	H	24	38	42	38	40
9	I	28	36	50	55	36
10	J	40	27	55	42	40

This table shows that most of the students got low marks in mathematics in comparison to other subjects. Only little number of students has satisfactory result of

mathematics. It is also shows that the student is getting problem to be passed in this subject and those who are passed also did not get a good mark. In comparison to other subject this school has got a good achievement in Nepali and social science. Those students who are from educated family background are getting good achievement rather than those are who are from uneducated family background.

Classroom Observation

To find the students participation & activities in the class, the researcher observed twelve classes and observed the class activities carefully. Among them two class observation record is presented in the following episode:

Episode 1

It was the first class observation; the teacher went into the classroom along with the researcher. All the students stood up and said good morning. Then the teacher told them to sit down. This showed that the students were well disciplined and the school has taught them to respect the teacher. There were 51 students in the class, among them 28 were girls and 23 were boys. There were 32 students presented in the class where only 21 girls presented and 7 girls were absent. The desk and bench were sufficient in the class. The blackboard was kept on the right place. The teacher started to teach geometry of topic quadrilateral. Some students do not have geometric instruments. Teacher wrote down a problem on the blackboard and started to solve each step and he asked students whether they understood or not. Some of them answered that they can solve the problem. Mainly the students on the first and second bench were active where most of girls were passive. Again, the teacher wrote another problem from the textbook on the blackboard and started to solve the problem explaining step by step. Teacher asked

questions to student about the related question and also made them doing that class work. He solved those questions in which they were getting problem. He wrote a problem in the board and asked them whether they could do or not. At last he solves the problem in the blackboard. Then he told them to do the exercise at home.

In this episode, the researcher found that most of the girls were present in the classroom. There was a topic 'construction of quadrilateral' which needs geometric instrument but there was not geometric instrument all of them. I also observed that they were doing class work with the help of their friends of geometric instruments.

The girlstudents were not so active participate in class. The teaching method was based on lecture and practice oriented. The teacher behaved commonly to all the students. He did not focus the girls. Specially, girls were passive in mathematics class. Only few girls of first two benches seemed to be active and rest of them were passive. Due to the lack of sufficient geometric instrument, this situation was created teacher were only three years learning experienced. Because of that they could not understand the psychology of students. It caused that teachers were getting problem in class management and students were talking and their concentration was out of the relative lesson.

Episode 2

It was the second-class observation of the teacher. There were 33 students in the class. There are 18 girls are present and 10 girls were absent. The class was well managed. In this class, most of the student brought geometric instrument. The teacher checked the homework few number of students. Again, in this class teacher started to teach the topic geometry of quadrilateral. He started the class connecting with the

previous lesson. Teacher wrote a problem on the blackboard and solves step by step with the help of geometric instrument and also explaining. Teacher also encourages student problem solving. Again, teachers provide another kind of problem for solves in the classroom and they cannot solve everyone. Finally, teacher solved the problem too meaningfully. At last teacher told them to do relative exercise at home.

In the episode, the researcher found that teacher started class after checking homework, he did not revise that problem which was not solved students. Teacher used lecture and practice method but taught only text book's exercise. No doubt teacher was well in subject matter.

In this class observation, I found there were most of the students were lack of prior knowledge. Some of them did not get learning environment at home due to the involvement of household work. Some of the student was busy in side talking and careless in class. Where most of the girls are passive they cannot tried to learn effectively learn. They were not motivated and interact with the teacher of the class.

Major Factors Affecting on Mathematics Achievement

School Related Factors

The school related factors play the important role to decide the future position of the students and the life of students. The teaching activities and extracurricular activities conducted in the school come within the school environment. There should be rule and regulation followed by teacher and students in the school. To build their career they should follow the rule and regulation. Not only that multiple factors are threatening and supporting the achievement of students' class size, teacher's biasness, math teachers teaching experience and teaching materials that directly affect the girl's achievements have been taken as school related factors.

Class Size

Class size indicates the number of enrolled students in a classroom. It is the important components. In foreign developed countries has adopted the small class size. But in Nepalese context it is hard to apply. Researcher willing reaches to optimum level together the real information from head teacher, math teacher, parents and students.

For this raised questions to them and noted as below:

"I always tried to make a good learning environment at school so,we divide students in different section."

[Head Teacher' View]

"He can't complete homework checking of all student though we everyday give homework to us. He checks few copies without any systematic way".

[Student's View]

"We can't complete homework checking and class work checking of all student's every day. We can't even ask them individually about their mathematics problem. Student participation is also troublesome in classroom because of large number of student's "

[Mathematics Teacher View]

From the above interview, I found that due to the large number of students in the classroom teachers feels difficulty to check their homework. Therefore, I suggested that class size should be limited for effective learning achievement.

Teacher's Biasness

Teacher's biasness on mathematics learning indicates that the tendency to make decision or take action based on gender. Where teacher fill boys are basically talented than the girls. In our male dominated society who has believed that mathematics only learns boy and teacher only care boys.

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

“Our school makes participation to every student in every activity whether they are boys or girls.

[Head TeacherView]

“During teaching period and other time, doesn't behave differently to boys and girls. I ask question and give feedback to them equally and individually”.

[Mathematics Teacher View]

“We don't know any behaviors that make us feel teacher behaves us differently according to our gender. He gives encouragement and rewards us for good performance equally whether we are boy or girls”.

[Student's View]

Above responses shows that teachers do not show their behavior as biasness in the classroom. It means they perform their behavior equally to the students whether they are girls or boys. Similarly, I found that students (girls) also do not feel we are inferior to boys in mathematics because our teachers never behave suchway. From classroom observation, I found that there was not any sort of discrimination in the classroom whether they are boy or girls in the mathematics classroom. Thus, the teacher had

behaved equally with all boys and girls in the classroom and he treated equally on punishment and reward cases.

Tools and Techniques

Mathematics is a subject of practical knowledge to fulfill the objectives of teaching lesson with the appropriate teaching materials, method of teaching should be chosen correctly according to the nature of lesson. There are different techniques used in teaching mathematics. They are teacher centered and student centered. A well trained good teacher uses the different teaching method according to the lesson of mathematics.

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

“There are teaching instrument which are needed for teaching in our school which are used by teachers for student centered teaching learning activities”.

[Head TeacherView]

“I know all mathematics teaching method. Most of the time I use student centered method according to the lesson. I use problem solving method, inductive and deductive method use techniques for effective and most of the time where as possible materials”

[Mathematics TeacherView]

“In the classroom, usually our mathematics teacher writes the formula on white board and then solves the problem using that formula we feel difficult to remember such formula we get confusion where the formula should be used”.

[Students View]

From the above-mentioned interviews, I found that teacher was used student centered method according to the nature of the lesson. Likewise, he used problem solving method, deductive and inductive method as well. In the same way, I found that teacher wrote formula on the board and solve the questions so students feel difficult to memorize those formula where those formulas were used. Similarly, from the classroom observation, I found that teacher used problem solving method without any teaching aids on the other hand he gave emphasis on the student active participation in teaching and learning activities.

Family Related Factors

Home is the first school for every individual. The students spend most of the time in the house. The children learn many things from their parents or family. Not only that multiple factors are threading and supporting the achievement of student's parent's education, parent's occupation, parents support and economic status that directly affect the girls' achievements have been taken as family related factors.

Parent occupation and economic status

People are involved different regular work to fulfill their necessities commonly known an occupation. Occupation of people determines his/her economic, social and educational value. Parent's occupation affects their children learning activities.

In this school, most of the student's parents are farmer. They produce food, vegetable and also alcohol and sell at Dhankuta bazaar. Some are police, teacher, business and abroad. Due to the lack of sufficient land, poor in education, they are facing the problem of poverty, so their children become irregular at school.

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

"Most of the parents are farmer and due to the lack of sufficient land, they have been suffering from poverty."

[Head Teacher View]

"They do not provide materials and extra class and do not provide a time to their child as they needed."

[Mathematics Teacher View]

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

[Parents' View]

"10 to 4 I have engaged in school but other time engaged in household work."

[Students View]

From the above-mentioned interviews, I found that most of the parents are farmer and economically poor so they are suffering from poverty. Lacks of money they do not provide materials, tuition fee and cannot provide appropriate time for study, students have to engage in household works. Therefore, parent's occupation and economically poor family background is one of the most important factors influencing learning mathematics.

Parent support

Parent's play vital role in the learning environment at home of their children. Therefore, parent's belief about what they are supposed to do in their children's education and appear to establish the basic range of activities. Parent sense of

efficiency helping their children succeed in school parents and family members are the primary factors to affects children's achievement.

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

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

[StudentView]

"Few parents come to ask about their children's mathematics problem. They sometimes request to coaching class for mathematics that their children are weak in mathematics. They also promise to provide good environment

[Head Teacher View]

"Sometimes the parents come to school to realize their children real situation about mathematics. They sometimes come to meet me to know their children's real mathematics problem and condition."

[Mathematics Teacher View]

"I'm uneducated but provided materials and tuition class."

[Parent View]

From the above-mentioned interviews, I concluded that parents send their children in tuition classes and provide sufficient learning materials to their children as they needed. In the same way, only few parents concerned with head teacher, school administration and mathematics teacher about the learning situation of their children. Sometimes students' parents concerned with school head teacher and talked about extra coaching classes. Similarly, they promise to the head teacher for good learning

environment for their children and they realize due to my educational status our children are weak in mathematics.

Household workload

Girls engaged most of the time in household work. They start their works from the kitchen early in the morning. Which affects their study and they can't balance time for study, which gives poor performance in the school. But some girls get up early in the morning and they are able to manage their time for study so they do better in their study other girls who are involved in their household works.

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

“Most of time some of the girl students come to school without complete their homework. Some of the student careless and most of the parents do not provide appropriate time to their child”.

[Mathematics Teacher View]

“Our children are engaged household work in morning and evening. Get our compulsion that they have to do homework at night. Sometime there may be problem of light we cannot provide sufficient time to our child for doing homework”.

[Parents View]

“Morning and evening engaged in household work but manage time for study”.

[Students View]

From the above-mentioned interviews, I found that most of the girl students present in the classroom without complete their homework due to their household works. They have to do their household works from early in the morning and evening in the every day except school time. They replied that household works were our daily

duties we should do these works because our parents did not understand and importance of our study. Similarly, from the classroom observation I found that most of the girl students did not complete their homework.

Social Factors

Human Beings are the social animal, so every activity of society affect them. In our society is male dominated society and society believe that mathematics is a male dominated subject and mathematics and science is male made subject. It is hard subject and girls cannot understand and study this subject. Not only that multiple factors affect the student's achievement where male dominated society, culture and social belief that directly affect.

Male dominated society and social belief

In our society is male dominated society and our society believed that women is second class citizen, Girls cannot study hard subject so only boys appears in mathematics.

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

“In previous days, boys were educated to the society but girls were restricted to their kitchen and most of time engaged in their household workload. This is the traditional effect of gender equity which influences the girl mental development and achievement”

[Head Teacher View]

“Boys and girls both can learn the mathematics who study work hard can gain good achievement in mathematics subject.”

[Mathematics Teacher View]

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

[Students Views]

From the above-mentioned interviews, I found that mathematics is not only for the boys learn, there is significance role of society for participation of mathematic. The political, economic, religious and cultural condition of the society can affect in the study of mathematics education for female. If girl students work hard they can also learn the mathematics because they are not weak than boys. Therefore, mathematics education is very much important for their lives be factor of their social, gender and family roles.

Culture

Culture is a base of human civilization. Different people have different culture also defined as the beliefs, values, behavior, and particular group of people. Culture is a way of life that a number of people have a common. Our culture affects virtually every aspect of our life.

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

"Students do not prefer to come school on the feast and festivals. The most students were absented on the following day."

[Head Teacher View]

"Student engaged in feast and festivals so culture effect on their study."

[Mathematics Teacher View]

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

[Student View]

"Student not make a time for study and not complete homework and engaged feast and festival."

[Parent View]

From the above interviews, I found that festivals effect on the learning environment of the students. Hence, they were absented in the day of festivals, in their society. Similarly, they did not complete their homework so cultural factor also effect on the learning achievement of the students.

Personal Related Factors

Mathematics education has become a challenging issue but only for teacher, students and parents but also for the experts. The word has been challenging day by day. Among the changing features of the world mathematics education is challenging style, procedures and so on. Not only that, multiple factors are threatening and supporting the achievement of students watching TV, playing games, prior achievement, Interest of learner, peer interacting and shy nature that directly affect the girl's achievements have been taken as personal factors.

Prior achievement

Learning should be from simple to complex. After getting basic knowledge about mathematics then students can learn mathematics effectively. Prior achievement one of the important affecting factor of achievement. This research was done in grade

IX. The basic knowledge or prior knowledge of former grade is one of the Key factors to affect the present achievement. Final mathematics scores of grades VIII have been taken as indicator of prior knowledge and scores of present tests of grade IX have taken as present knowledge.

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

"We have the system of upgrading the students in final examination though they are failed in two subjects. Most of the students fail in mathematics and English. There are easily upgraded in higher class. This has created serious problems in SLC result. "

[Head Teacher View]

"Prior knowledge has great role to learn the students about subject matter. We have a system that the student upgrades if she achieves below 32 marks in major two subjects. Due to upgrading weaker students, there becomes a problem for teacher and also for the students."

[Mathematics TeacherView]

"I am weak in mathematics from lower class. So, I still have problems in mathematic. I always get poor marks in mathematics."

[Student's View]

"It is not good that out students become pass without having score 32% in all subjects. So, school be published the result strongly."

[Parents'View]

Interest of learner

It refers to the desire of the learner to learn mathematics. Different students have different interest such as playing game, art, music etc. If students go according to his interested field then he will be success. Interest is determined by the activities

of the society. Girls only 10 to 4 engaged in school but other time they are engaged in household work. Mathematics achievement of students depends upon the interest of learner. If students are interested in mathematics then they would be happy in learning mathematics.

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

"In present student do not have interest in mathematics learn."

[Head TeacherView]

"Student just study easy subject but most of them have less priority in learning mathematics. So, their mathematics achievement is low than that of other."

[Mathematics Teacher's View]

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

[Student 's View]

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

[Parent 's View]

From the above voices, I found that students are not interest in mathematics, because theylike stories and dramas. They did not give priority to the mathematics subjects than other subject. Similarly, they did not practice at home so they are weak in mathematics. Similarly,from the observation I found that students did not carry their geometric instrument. Here I concludedthat due to the student's poor interest in mathematics they are very weak in mathematics.

Watching TV and playing games

In present time student do not interest in study. Most of the student's interest in watching TV where films and Hindi serial .TV give an informative program but student can't watch this program and learn. So, watching TV and playing games are affected factors of achievement.

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

"TV gives informative program but student can't watch this program. She always watches films and Hindi serial."

[Head Teacher View]

"Now a day's students not interest in study they always watching TV where only watch films and serial and always playing games"

[Mathematics Teacher View]

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

[Parent View]

From the above noted voice I found that students are involved to watch TV. On the other hand, there is some informative programs provided by the TV but they did not watch such program. They like only hindi and Nepali movies and serials. Therefore, the achievement of the mathematics is low than other subjects.

Teaching Strategy

Teaching strategy mean the procedure for effective teaching learning process. Handling effectively, motivating the students, encouraging them for further improvement, involvement of the students, active participation management, psychological and physical treatment of students etc. are key aspects where teaching

strategies gives focus on. Planning for different techniques, style for teaching learning process are teaching strategies.

School's Policies for Learning Mathematics

School's policies play great role in the learning process. A critical study of all aspects such as administration, commodity, relations, students' performance, staff's relation etc. and development of operational polices can reduce all the problems that can be observed at school. The following are some of the representative responses of head teacher, math teacher, parents and students in respective question for school's policies for learning mathematics in the day to come.

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

"We have managed extra classes for grade ten."

[Head Teacher View]

"I have provided a tuition class for weak students".

[Mathematics Teacher View]

"We have sent our children at school for extra classes in time."

[Parents View]

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

[Student View]

Especially, the school provided the extra class to support for learning mathematics. So, the students are getting happy to pass the SLC exam. For this the parents are sending their children in time at school and supporting by financially. The above views indicated that a lot of improvements will be done for this year and the processes of improvements are still continuing. The result as well as learning of

mathematics cannot be no more analyzed due to the beginning of the implementation, but the visions of school are clearly mentioned by head teacher, teacher and parents.

Chapter V

SUMMARY, FINDING, CONCLUSION AND IMPLICATION

This chapter deals with the major finding of the research, conclusions and implication for further study. The first section reveals the summary; the next lists the major finding and conclusions derived on the basis of research analysis and recommendation for further study.

Summary of the Study

This is the case study of Shree Shreeman Tanka Secondary School of Dhankuta district. The researcher tried to factor affecting girl's achievement in mathematics. The major objective of the study was to explore the factors affecting the girl's achievement in mathematics at secondary level and to identify the strategies take by the school administration in improving girls' mathematics learning. The design of the study was qualitative as well as descriptive in nature. The major tools of the study were class observation interview and school documents. The respondents of the study were ten girl students in grade IX, corresponding parents, mathematics teacher and head teacher of the case school. The researcher developed the interview themes, observation form with the help of previous study thesis and supervisor were analyzed and interpreted on the basis of different theories.

After analysis and interpretation of different data the researcher found that there is different factor affected the achievement of girls in mathematics at secondary level. This factor are school related factors (Class size, Teacher's biasness and Tools and Techniques), Family related factors (Parent education, Parent occupation, Parent support, Economic status and Household workload), Social factors (Male dominated society, Culture and Social belief) and Personal related factors (Watching TV,

playing games, Prior achievement and Students interest) are the affected factor of girls' students achievement in mathematics.

Finding of the Study

From the analysis and interpretation of the collected data the following results were considered as the major finding of the study.

- The school has follow the system of upgrading students which are fail in major two subject matter which they have to learn in upper class. So, girls pass in mathematics which result the low achievement. Hence, there is a lack of prior knowledge in mathematics that causes low achievement in mathematics at secondary level.
- The school had sufficient rooms, benches and play ground with playing materials. The school's library was not sufficient for study materials belonging to mathematics. It was also lacking a library for mathematics materials.
- The extra class managed by school which is not sufficient for girls because of their household workload.
- Society gives different roles, rights and responsibilities in different community for boys and girls, which gives different values for them.
- Interest of learner and family background has positive effect on mathematics achievement of girl's student.
- The school management committee of the school had arranged new policies at school to promote the overall achievement of girl students.
- Most of parent is busy in agriculture. Due to poverty, their children have to do household work and fieldwork. As a result, their mathematics achievement is low.

- Girl students do not have enough time for study at home where do exercise practice and do homework at home because of household workload and family problem. Uneducated Parents don't give importance of their daughter education.
- School policy hasn't concerned about mathematics achievement. There weren't extra classes of mathematics for low achiever students. There was no library and sufficient learning materials in school which effect student's achievement.
- Academically, the mathematics teacher was qualified but the teaching style were traditional and lack of used student-centered method which is affect the student's achievement.
- Student's interest, watching TV, prior knowledge, social belief, culture are the affected factors of girl's mathematics achievement.

Conclusion

From the above finding of this research it was conducted that our society and school give different rights, responsibilities for boys and girls. Most of the time girls were involved in household works they cannot sufficient time for mathematics practices. The teacher's expectation of girls is low than that of boys by which girls were afraid towards the mathematics subjects by the result those girls are good in mathematics. Those who can select mathematics are also doing well due to lack of time for their study at home. The teacher behavior and family background are also having some positive and some negative effects on mathematics achievement of girl students. So that the teacher and parents have been sometime equally for the girl student learning activities in school and create good environment at home for learning can improve the mathematics achievement of girl's students.

Teacher's belief about the nature and purpose of mathematics and how students learn have a powerful effect on the practice of teaching. Although the school seems to have sufficient physical infrastructure and qualified teachers but the teacher seems to be unable to maintain individual differences and promote slow learners in teaching learning activities. Family related factors (parent education, occupation, parent support, economic status and Household workload) School related factors (Class size, teacher's biasness, Tools and Techniques), social factors (male dominated society, culture, social belief) and personal related factors (watching TV, playing games, prior achievement, interest of learner) are major factor effecting on achievement of girls in mathematics at secondary level. New policies of school seem to have better educational learning in the total school family cooperative each other and support from own area.

Implication

From the above findings and conclusions, the researcher would like to suggest some implication for the improvement of mathematics learning of the mathematics.

In the context of Nepal, many students have low achievement in mathematics and the trend is still continuing. This case study factor affecting girl's achievement in mathematics has found multiple factors. From school related factors, personal factors, social factors and family related factors have been found as effecting factors. Although qualified, trained and experience teachers are working at public schools but result is not satisfactory. Continuous assessment system, implementation of operational mechanism and its continuous analysis, a change from syllabus focus on student's outcomes as well as a move from teacher directed classrooms to students centered learning and used of teaching materials is necessary to maintain quality education at school and also modify the society where role of girls.

This was the case of only one of the schools so the results cannot be generalized in all situation. This due to lack of time and resources. This similar research should be done in large school's district wise. Government should research about this problem. Government and policies maker should make good mechanisms so that school can adopt to promote mathematics learning.

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Appendix-1

Class Observation Record Form:

Name of the School:

Time:

Address:

Period:

S.N	Initiation of class	Very Good	Good	Satisfactory	Poor	Remarks
1	Teacher's personality					
2	Introducing the objectives of the lesson					
3	Interestingly the objectives of the lesson					
4	Based on precious lesson					
5	Class arrangement					
6	Student's regularity					
7	Girls regularity					

S.N	Presentation and developing of the lesson	Very Good	Good	Satisfactory	Poor	Remarks
1	Providing suitable example and learning guidance					
2	Encouraging for Sharing and small group discussion					
3	Appropriate of Questions answer between students and teacher					
4	Teacher and student's interaction					
5	Used of Teaching materials					

Factors Affecting Girl's Achievement...|

6	Girls Participation in class					
7	Motivate reward and punishment					

S.N	Teaching Method	Never	Sometimes	Often	Almost daily	Remarks
1.	Lecture					
2.	Discussion					
3.	Problem Solving					
4.	Inductive / Deductive					
5.	Question/ Answered					

S.N	Classroom Organization	Yes	No	Remarks
1	Is the white board at appropriate place			
2	Are the sufficient seats for student?			
3	Store the teaching materials in class?			
4	Teacher Based in Classroom			

S.N	Closing of Lesson	Yes	No	Remarks
1	Did the teacher Summarize the lesson?			
2	Is the lesson evaluated?			
3	Does Evolution come out satisfactory?			
4	Is the class work given?			
5	Is the given assessment opportunity?			

Appendix-II

Guideline for interview with Head Teacher

Name:

Age:

Qualification:

Teaching Experience:

Address:

The Interview with teacher was taken on the basis of following main topic:

- Participation of girls teaching learning activities.
- Teaching method.
- View of mathematics teacher towards the affecting factors of girls.
- Interest of girls in mathematics teaching.
- Which strategies taken by school improvement in girls.
- Teaching method use in mathematics class.
- Participation of girls of mathematics class work and homework.
- Classroom management.
- Students upgrading system.

Appendix-III

Guideline for interview with Mathematics Teacher:

Name:

Qualification:

Age:

Teaching Experience:

Address:

The interview with parents were taken on the basis of following main topic

- Participation of girls teaching learning activities.
- Participation of girls of mathematics classwork and homework.
- View of mathematics teacher towards the affecting factors of girls.
- Interest of girls in learning of mathematics.
- Students upgrading system.
- Which strategies taken by school improve in girls?
- Teaching method use in mathematics class.
- Classroom management.

Appendix-IV

Guideline for interview with Parents

Name:

Family Size:

Address:

Annual Income:

Occupation:

Caste:

Qualification:

The interview with parents was taken on the basis of following main topic:

- Motivation, reward and punishment to their children.
- View towards affecting factors of mathematics achievement.
- Which Strategies taken by the school administration improve the girls' achievement?
- Child interest area.
- Social belief and their culture.
- Helping their children study.
- House hold work.

Appendix-V

Guideline for interview with girls

Name:

Aim in life:

Roll No:

Occupation of Parent:

Address:

Interested Subject:

The interview with students was taken on the basis of following main topic:

- Opportunity of the girls to learn at home.
- Teacher's behavior towards girls.
- Participation of mathematics class.
- Relationship between girls and teacher.
- Encouragement provided to girls by teacher.
- Daily activity at home.
- Which factor affects the girls' achievement?
- View on the school facility.
- Teaching method and materials.
- Homework/ classwork.