

**IMPACT OF HOME ENVIRONMENT ON MATHEMATICS
ACHIEVEMENT OF GIRL STUDENTS**

**A
THESIS
BY
RINA KARKI**

**FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
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LETTER OF CERTIFICATE

This is to certify that Ms. Rina Karkia student of academic year 2070/71 with campus Roll Number: 710, Thesis Number 1335, Exam Roll Number: 280509 (2073) and TU registration number 9-2-29-1416-2007 has completed this thesis for the period prescribed by the rules and regulations of Tribhuvan University, Nepal. This thesis entitled “Impact of Home Environment on Mathematics Achievement of Girl Students” has been prepared based on the results of her investigation. I, hereby recommend and forward that her thesis be submitted for the evaluation as the partial requirements to award the degree of Master of Education.

.....

Assoc. Prof. Laxmi Narayan Yadav

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LETTER OF APPROVAL

This thesis entitled “Impact of Home Environment on Mathematics Achievement of Girl Students” submitted by Ms. RinaKarki in partial fulfilment of the requirements for the Master Degree in Education has been approved.

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RECOMMENDATION FOR ACCEPTANCE

This is to certify that Ms.RinaKarki has completed her M. Ed. thesis entitled “Impact of Home Environment on Mathematics Achievement of Girl Students” under my supervision during the period prescribed the rules and regulations of Tribhuwan University, Kirtipur, Kathmandu, Nepal. I recommended and forward her thesis to the Department of Mathematics Education to organize final viva voce.

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DECLARATION

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

.....

(RinaKarki)

DEDICATION

Honourably dedicated

To

My parents

Tula Bdr. Karki and Mana Maya Karki

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.....

Rina Karki

ABSTRACT

The study entitled Impact of “Home Environment on Mathematics Achievement of Girl Students” is based on quantitative approach. The objectives of the study were to find the effect of home environment on the mathematics achievement of girl students and to find out the relationship between girls achievement in mathematics and family related factors. Questionnaire and mathematics achievement score were used to collect data. The home environmental factors consisted of 12 parts such as father’s occupation, mother’s occupation, father’s education, mother’s education, father’s income, mother’s income, number of family member, study materials, study room, study time, household workload and parent’s behaviour. The questionnaire consisting 38 statements which was distributed to 135 students and were requested to fill it. The Standard Multiple regression were calculated to fulfil the first objective and Pearson’s Correlation coefficient were calculated to fulfil second objective.

The finding of the study shows that home environmental factors effect on achievement of students. Father’s occupation affected 24.9%, study time affected 22.7%, study materials at home affected 15.1%, household work load affected 12.8%, mother’s education affected 11.7%, father’s income affected 8%, study room affected 8.2% and parent’s behaviour affected 6.1% on achievement of students. Father’s education, number of family member, mother’s income and mother’s occupation are low affected factors on their achievement. Among all factors father’s occupation, mother’s education, reading materials at home, study room, study time, father’s income, household workload and parent’s behaviour have great effects and high relation in girl mathematics achievement.

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Acronyms

CERID: Central Research Innovation and Development

SPSS: Statistical Package for Social Science

NASA: National Assessment of Students Achievement

PISA: Programme for International Student Achievement

Chapter I

Introduction

Background of the Study

Mathematics is an important subject of the school curriculum. Most of the lesson of mathematics is taught and learnt by including with another subject. Most of the students think that mathematics is a challenging and difficult subject. However, the standard tests and evaluation reveals that students do not perform to the expected level. Most of the girl students are seen low achievement in mathematics.” The students under achievement in mathematics is not just a concern for particular countries, but has become a global concern years’’ (PISA,2003). This study concern with mathematics which is related to gender based learning that why the girl has low achievement in mathematics and which home environment factors are responsible for their achievements.

Bhatta (2016), Different factors like home related, students related and social related directly and indirectly affect girl student’s achievement. Family environment has caused great impact on girl students learning process and achievement.” Many aspects that impact of the gain mathematics knowledge as well as mathematics achievement. Such as instructional materials, teaching method, teacher personality, individual differences, peer group, political changes, geographical structure, socio-economic status, home environment etc. Among all these aspects, the home environment is an important factor affecting the achievement in the mathematics of girl students.

Here home environment is defined as a condition of the family including different facilities and available for basic and extra needs. Socio-economic status of the family, parent’s education, parent’s occupation, culture, tradition, religion etc.

create the home environment. Home environment plays central role in child behaviour and academic achievement.

The home environment has been conceptualized as the quality of human interaction, from the point of view of a child. It includes those aspects which foster growth and development, such as family trust and confidence, sharing of ideas, parents support, parental approval and support of siblings (Singh, 2017). Father and mother should be positive for personality growth and development of their children. Trusting children by their parents, sharing ideas for their study, helping them to solve the problems etc. create positive home environment.

Valdez (2006), Stated that “there is a huge risk of educators neglect or overlooks of cultural values and family engagement in the learning process”. Many educators focus on effective instruction in the mathematics and science learning without paying much attention to the idea of home support for education. The researcher often argues that learning in the home is crucial in helping all children become remain a motivated learner.

The strongest factor in modelling a child’s personality is his relationship with his parents. If his parents love him with generous, even flowing, no positive affection and if they treat him as a person who likes them self, has both right and responsibilities, his chances of developing normally as well and good. But if they diverge from this the Childs development may be distorted (Cox & Cox 1917).

Several researchers have studied the influence of family environment on girl student’s adjustment and academic achievement. Studies of Singh (2017), revealed that locality and discipline are related to a home environment which is the affective course of academic achievement of girl. Ojimba (2013), showed there is a

significant relationship between parent's socio-economic status and student's achievement in mathematics in senior secondary level.

Home environment is considered as a strong influence on the child learning. The environment is viewed as consequential for the achievement of understanding ability, school reading, academic outcomes and emotional tolerance. Home environment includes different aspects such as parents education, parents occupation, study time, family harmony, library time, homework checking, television, poverty, radio, reading room, family size, income, school visiting by parents, newspaper reading, knowing the up to date about event of the world and household workload.

The effect of gender difference in education is visible in literacy rate of our society. Subsequence, the question of gender equality in mathematics education is a complex issue. Although boys and girls take the same course and read the same text books in mathematics in school, there is a significant pattern, gender parity, informal education can be sensed in terms of literacy rate of male and female. The kind's differences show one instance of unequal access to educational opportunities to male and female in the country. Lack of equality in education has been a serious problem in developing countries like Nepal (Upadhaya, 2064). The political condition of the country, the economic and educational condition of family, religious and cultural condition of the society can affect in the study of mathematics education for a girl. Mathematics education is very much important to girl for their proper lives. Due to gender discrimination, mathematics education is being difficult and challenging for girl-students.

Many students including primary and secondary students, adults, parents and even teacher regard mathematics as a male domain (Shaurd, 1982). There is also wide

spread belief that boys are better in mathematics than girls (Burton, 1989). In the case of girls political, economical, religious, and cultural condition of society can influence in the study of mathematics. Many bad cultures, traditions, social norms, and gender inequality, gender discrimination, giving low value to daughter education, and lack of taking care by parents negatively influences in learning activities and mathematics achievement. The girls who study in secondary level are in adolescence stage with physical and mental changes. These changes cause difficulties for their study.

Therefore, it is necessary to study and research for participation of girls in mathematics and mathematics achievement. The aim of this study is to improve the girl's achievement in mathematics. Why girls have low achievement? How does home environment affect mathematics achievement of a girl student? What are the factors that affect the mathematics achievement of girl student of secondary level? Thus, present study proposed to find out the impact of home environment on mathematics achievement of girl students.

Statement of the Problem

Mathematics is supposed as the most difficult subject in school curricula for both teaching and learning. Steen (1987:251) refers to mathematics education as a crucial predictor and indicator of future national strength in science as well as technology and economic competitiveness. According to Leder and Jones (1989:77), without mathematics background, students find it difficult to enter tertiary level courses in mathematics and related disciplines like engineering. From the assertions aforementioned about the importance of mathematics in today's technological world and the prevailing poor achievement in mathematics achievement and many researches succinctly illustrate that girl students' achievement in mathematics in

Nepal is ebbing away day by day (NASA, 2013). However, the government of Nepal has different provision of teachers' professional development, liberal promotion policy and child friendly learning program in order to make panacea for it. And these programs do not work properly without the in-depth analysis of hindrance factors that impinge on the girl students' achievement, especially in mathematics. It appears to have become expedient for a study to be conducted in the Nepalese context to identify factors that have been intentionally hinged mathematics achievement. Furthermore, the achievement of girls those come from emotionally disturbed families in mathematics significantly low from other girls. And, mathematics teacher's behaviour toward students in classroom learning also affects the students' achievement (Hensel, 1989). Thus, it is also necessary to analysis that how home environment related factors associated with girl's mathematics achievement.

Therefore, the main concern of this study is to examine the following statements:

-) What are the home environmental factors that affect the mathematics achievement of girl students of secondary level?
-) How does home environment affect mathematics achievement of a girl student of secondary level?

Objectives of the Study

The typical objectives of the study are as follows:

-) To find out the effect of home environment on the mathematics achievement of girl students.
-) To find out the relationship between girls achievement in mathematics and family related factors.

Significance of the Study

The findings of this study is beneficial to educational related sectors regarding what are the home related factors that impinge on the girls' achievement in mathematics. This may be useful to the mathematics teachers, mathematics curriculum designers and developers, and policy makers. Thus, the significance of this study is listed in the following points:

-) This study helps to get information about the mathematics achievement of secondary level girl students.
-) This study helps to get information about the relation between home environmental factors and mathematics achievement of secondary level girl students.
-) Its findings help to create an appropriate home environment to improve the mathematics achievement of secondary level girl students.
-) It provides important information about the home environmental factors that affect the mathematics achievement of a girl student of Ramechhap district.

Delimitations of the Study

This study was delimited on:

-) The study was limited to the achievement of the students in relation to their home environment.
-) This study included only the girl students of secondary level (Grade X).
-) This study was limited to the government formed schools of Ramechhap district.

-) It consisted of four schools and all students of grade X of their schools of Ramechhap District.
-) It was limited to questionnaire for students of grade X and mark ledger of final exam of grade IX students who are studying in grade X.

Operational Definition of the Key Terms

Some terms related to this research are defined as follows:

Home environment: The home environment is an environment that facilitates students to help in the mathematics achievement including many factors such as parent's education, parents occupation, , study time at home, household workload, family income, family size, guide by parents, study room at home, parents behaviour.

Achievements: Here achievement is defined in terms of the score in mathematics final exam of grade IX.

Family Size: Family size is a number of members of the family. There are two types of the family such as single family (less than or equal to four) and joint family (more than four).

Parent's education: Parent's education is the education of family members. There are three types of parents who are literate, illiterate and educated. Literate parents are able to read and write illiterate parents are unable to read and write and educated parents can teach their children at home.

- Family income:** Family income is concerned with the economic status of the family. It has categorized in three types, high income, middle income and low income. The family who earns more than Rs. 1,00,000 per year is known as high income, The family who earn Rs. 80,000- Rs. 1,00,000 per year is known as middle income and the family who earn less than Rs.50,000 per year is known as low income.
- Parent's occupation:** Parents occupation is defined as the field where parents are involved for their daily life fulfilment such as farmer, Security officer, driver, mechanic, police man, teacher, lecturer, manager, business man, doctor, professor, lawyer, house maid, garden- maid, cleaner, cook, nurse, teacher, lecturer, manager, business woman, doctor, professor, lawyer etc.
- Parents supporting:** Creating good environment or teaching for doing homework at home given by teachers.
- Study Time:** Time for study mathematics subject at home.
- Household workload:** The household workload is defined as the simple work of house such as washing cloth, cooking, cleaning home and help to do farming by students.
- Students:** Girl students studied in grade X.

Chapter II

Review of Related Literature

A literature review surveys books, articles, and any other sources relevant to a particular issue, the area of research, or they, and by so doing, provide a description, summary and critical evaluation of these works in relation to the research problem being investigated. It is a critical analysis of a segment of the published body of knowledge through summary, classification and comparison of prior research studies, reviews of literature and theoretical articles. Research is an art of scientific investigation carried out on the particular subject matter in order to find out the solution related to the problem. Research is a systematic inquiry that investigates hypothesis, suggests new interpretations of data or texts, and poses new questions for future research to explore.

Review of Empirical Literature

The review of the Empirical literature concerns the systematic concise of Scientific researches and true exploration including their topics, the objective of study is done by clear way, design and sample are concerned in the study, the reasons why this study has to have organized, methods of the study, data collection tools and methods of confirming their validity and reliability, and key findings in the related field. It confirms that the researcher considers of the scientific exploration and systematic study.

Khanal(2017), had done a study on “Girls perception towards gender discrimination and its effect in learning mathematics.” He intended to accomplish the objectives to identify the girl's perception and situation of gender discrimination in

mathematics class room, to analyse the effects of discrimination in learning mathematics. This study was based on survey method which is included in quantitative research approach. Mathematics score and questionnaire were the tools of the study. He had done this study in Butawal sub- metropolitan. The girls of two private schools and two government of grade nine were the population for the study. He analysed data by SPSS programme. As a conclusion researcher stated that, maximum students had positive perception toward gender discrimination. Effect of parent's behaviour is more than another type of discrimination. Effect of administrative planning is less than another type of discrimination. This study shows that parent's role is important role than other.

Sharma (2015), had done study entitled "Impact of home environment on mathematics achievement of Tharu students." The study was survey design with quantitative approach. She selected seven public and 13 private schools of Kohalpur municipality of Banke district. 200 Tharu students of grade VIII and their parents were sample of the study. Tools of the study were mathematics achievement, questionnaire and interview schedule. Mean, ANOVA test, t- test, standard deviation, correlation coefficient and multiple regression were used to the analyze of data. Computer software programme SPSS was used to analysed data. As a conclusion researcher stated that, medium family's children obtained better marks than small and big family's children. Family using Nepali language at home and parent's education create better learning home environment. Achievement of the mathematics of Tharu students is determined by many different responsible factors such as family environment, family size, study time at home, social belief, parent's education, parents' occupation and social tradition.

Khojwar (2014), conducted a research on the title “Affect of home environment on mathematics learning achievement.” The objectives of study were to identify the major factors involved in the home environment of magar students which impact their mathematics learning achievement of themagar students, to find the impact of home environment of magar students and to find cause that impact to the mathematics learning achievement in magar students. This study was qualitative research and purposive sampling in case study approach. Udaya Secondary school, Bhadauri, Nawalparasi district was taken for sample purposively. Tools of the study were class observation, interview and focus group discussion. Researcher underscored the conclusion of this study impact factor related to home environment of magar students were parent’s education, parent’s occupation, family size, household workload, homework checking and study time.

CERID (1988), in the report “Present situation of children in Nepal: School.” has mentioned that students come at school from different cultural and economic settings. They belong to different castes, religious and language communities. In a developing country like our children are tackled with problems having geography and transport. For various reasons they dropout and repeat the grade. To stop this is not an easy task. Hence, teachers and community people should make the parents aware of this. Most of the parents in remote areas do not send their children to school because of their unawareness. They use their children to earn for the family because of their poor family economy.

NASA(2013), studied on the topic “Report on National Assessment of Student Achievement.” This study is carried out using survey design in quantitative research approach. The sample size for this assessment was 44,067 students, 1199

teachers and 1199 Head teachers from 1199 randomly selected schools of 28 sample districts. Tools of study were questionnaire and standardized test. The study found that students tend to perform higher who afford more time on homework, have positive attitude towards the subjects, receive required support from siblings or private tuition from teachers, do not need to work for earning while studying and reach the grades at their current age and so on. Achievement gap between boys and girls in mathematics and science. However, girls still lag behind the boys by five percent in mathematics and four percent in science. This study indicates that there are some lacking in the current educational system of Nepal. The wide gap in the achievement level of students, schools, districts and regions indicates that there is an unequal distribution of educational opportunities to students.

Bhatta(2016), carried out the study entitled on“Factors affecting the achievement of girl students in mathematics.” This quantitative descriptive research was done to fulfil the objective, to find out the factors affecting mathematics achievement of girl students and to identify the strategies used by the school in improving mathematics achievement of girl students. The sample size for this study was 60 students of grade X. The data collection tools were achievement test, questionnaire and interview schedule. At last the study shows that family environment has caused great impact on girl students learning processes and achievement. Mathematics achievement also depends on students high and low labour. Teachers – Student’s interaction, class discussion, extra mathematics class, continue assessment and cross questioning. Home environment, parents guidance, school environment, school leadership, surrounding of school teacher quality, student self-motivation has made girl student’s achievement high in mathematics.

Pant (2014), did research on the topic “Cause of low achievement in mathematics by gender.” With two objectives, to find the cause of low achievement in mathematics of girls school and to find the ways of using materials, strategies and procedures for mathematics learning. This study was case study with quantitative and descriptive approach. She selected 1 public school of Kanchanpur district. Interview schedule, observation form and document analysis were tools of the study.

After analysis the collected data, she decided that lack of student oriented teaching learning process, bad school environment, and home environment negative attitude towards mathematics of girls, no interaction with teacher, no peer group discussion, no discussion with senior, no homework checked, no class work is given, no library and instruction materials are the major factor of cause of low achievement in mathematics.

Chataut (2014), studied on “Achievement on mathematics by gender” with the objectives to compare the achievement in mathematics by school, to compare the achievement in mathematics by year and to compare achievement in mathematics by sex. The researcher adopted the survey design in quantitative method in this study. For sample of the study 1866 students were selected five secondary public schools of Kanchanpur district. Tools of the study were mathematics achievement and interview schedule. The researcher analysed collected data by calculating mean, S.D., t- test, ANOVA and post hoc test.

After analysed the data, she decided for conclusion. Parents don't give more importance to girl's education as boys. Study time, different values of society for boys and girls, gender formation, cultural practice of girls, household workload, feeling

uncomfortable with male teacher, feel low profile in learning mathematics and dominated feel in class are the main cause of low achievement in mathematics.

By reviewing literature. It was helpful selected topic, objectives, mythology, analysis of data, finding and to arrange all thesis proposals. There are not any researchers about “Impact of home environment and achievement of secondary level girl students.” It was encouraged for involving in this research work. So it will be helpful for further research also.

Review of Theoretical Literature

The feminist theory for education focus on gender inequalities in society. Feminist research has revealed the extent of male domination and the ways in which male supremacy has been maintained. From a feminist view point, one of the main roles of education has been to maintain gender equality.

Trueman(2017), said feminist believe that the education system is practical and dominated by men, just like a work force is. Feminists argue that the education system is a just a primary preparation for leading the future work force. They believe there are still gender differences in subject choice in school. Feminists also believe that gender stereotyping may still exist in the society as boys are believed to fit better in the future workforce than a girl. Reasons given forward for girls previously underachieving in education have been due to females being family orientated and family focused, that education was practical and socialization of the role they are expected to play as a female traditionally.

Further points out that before children even begin school at the age of 5, sex stereotyping has already begun from the dolls they play with reinforcing feministic

roles. For example: dolls now come with pretend to make up and some with aprons on them and mini kitchens for girls to play with. This may affect girl's educational aspirations. Similarly, they may come to believe that gaining qualifications through education is secondary to the ideas of love, marriage and having children. Boys, however are more likely to be given constructional toys which help develop scientific and mathematical concepts. These gender stereotypes further reinforced through the media. Therefore as a consequence of this form of early socialization girls may have come to value education less than boys.

Spender(1982), said that teachers throughout school give boys and girls different types of attention; he says that girls are praised for appearance, good behaviour and neat work. He has further looked into the argument of gender inequality in education and said: "What is considered inherently interesting is knowledge about men. Because men control the records, and the value system, it is generally believed that it is men who have done all the exciting that it is men who have done all exciting things, it is men who have made discoveries, made inventions and performed feats of skill and courage – according to men. These are the important activities and men can engage in them, so we are lead to believe. And so it is that the activities of men become the curriculum. Feminist's view interlink with that of Spender (1982) and with their belief that boys are better set out for education, work force and life from the moment they burn due to their sex. This goes to against the idea of meritocracy and encourages the idea of self-fulfilling prophecy and discrimination. By feminists macro scale males and females to the whole of society. They believe society is based on conflict and that conflict is between the sexes in everywhere belonging to education achievement also.

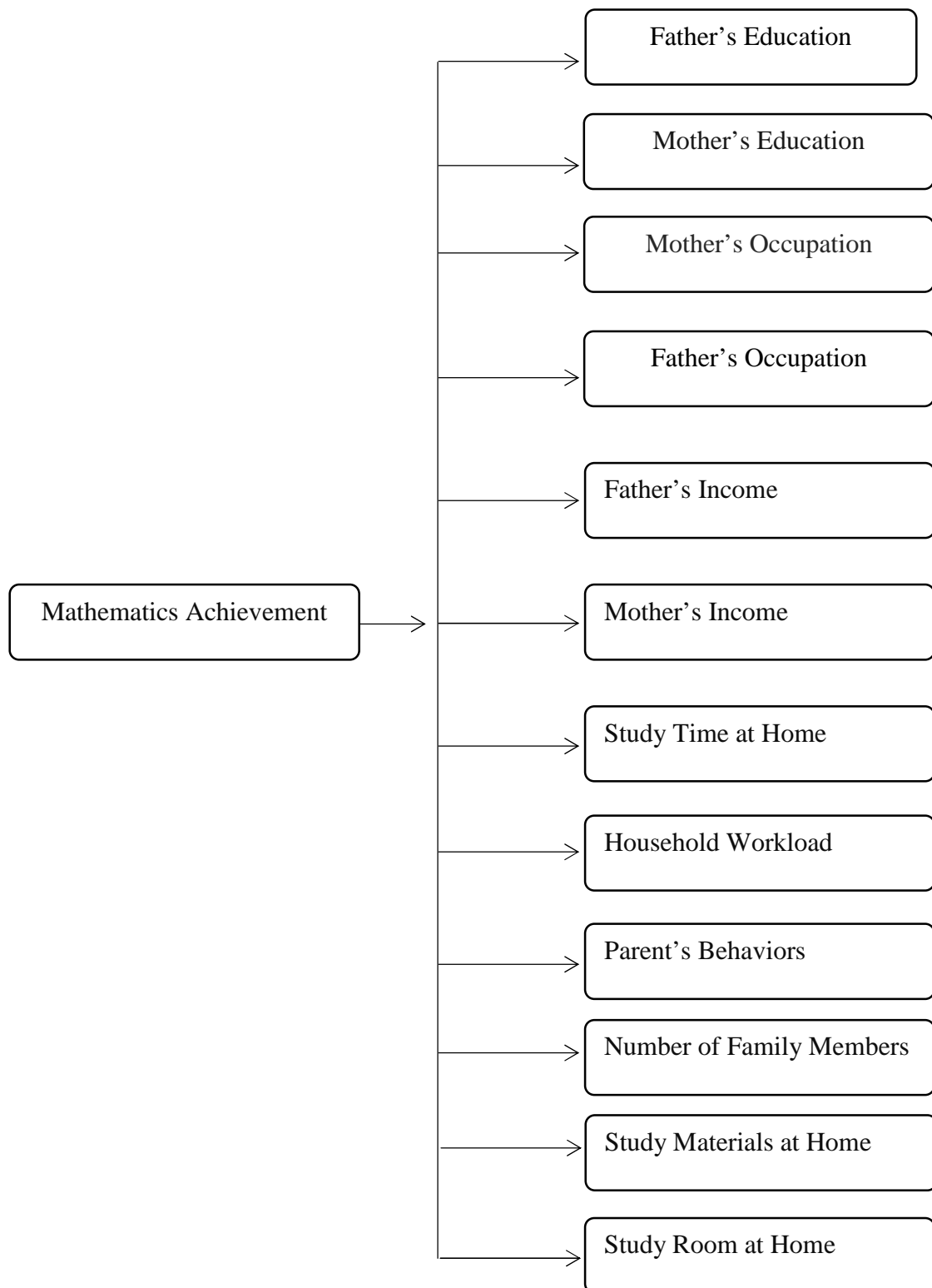
Thompson(2011), the Socialization theory said that early second – wave feminist analysis sought to discredit the existing view that because girls tended to perform poorly in “masculine” subjects such as math and science they were incapable of meeting high intellectual standards. As long As teacher and parents did not treat girls unfairly them into thinking they could not well in difficult subjects, socialization theory argued that, girls could meet the same academic slandered as boys, By providing all children with gender natural education and eliminatory other obstacles to female success, school would not only ensure fairness but would increase the pool of skilled workers, thereby benefiting society as whole.The pedagogical interventions called for by socialization theory are fairly straight forward if girls are to flourish, teachers, parents and administrators need to treat girls in the same ways that they treat boys of course the difficulty in implementation . Not only do teachers have to want to treat boys and girls equally, but they have to overcome their own socialized perceptions of how they treat girls and boys.

Conceptual Framework of the Study

Conceptual framework is the basis of investigators research problem. It has beenconstructed on the basis of home environmental factors which are affecting mathematics achievement of students. This study aims to identify and analyse the impact of home environment on mathematics achievements at secondary level (Grade X) girl students. By the help of above literature, theoretical understanding, researcher creates the indicators to find out the impact of home environment on mathematics achievement that are environmental factors which effect directly on studentsmathematics achievement. By the help ofsocialization feminist theory for education the conceptual framework as follows:

Figure: Conceptual Framework of Study

Dependent Variable Independent variables



On the basis of the above mentioned conceptual framework, the tool was constructed such as questionnaire form. By using the tools, the data was collected and data was analysed on the basis of the conceptual framework. To find the effect of independent variable on dependent variable and to find the relationship between independent variable and dependent variable, this conceptual framework was used. The model is developed by the researcher the help of related literature, previous research and the advice of supervisor. This study was mainly based on above already explained theory socialization feminist theory for education.

From the review of empirical and theoretical literatures, it can be seen that many home environmental factors that impact on mathematics achievement of girl students are father education, mother education, mother occupation, father occupation, father income, mother income, study time at home, household workload, number of family member at home, study materials at home, study room at home and parents behaviour.

Chapter III

Methods and Procedures

This chapter carries out the methods and procedures that have been used in the conducting of this study. In fact, this chapter includes the discussion of research design, population and sample, data collection tools, data gathering process and analysis process of data.

Design of the Study

The research has been conducted based on survey design which is included in quantitative research approach. This study has been completed by using survey design which involves the collection of data from different aspects of home environment and their effect on mathematics achievement of girl students. Because survey design tries to collect appropriate and sufficient data and find out if the independent variables meaningfully influence the dependent variable.

Population of the Study

This study had been conducted in Ramechhap District of Nepal. According to list of District Education Office there were 1335 girl students studying at grade X in the academic year 2074 B.S. The population of this study consists of all the girl students of Ramechhap district studying at a grade 10 of the public schools during this academic year.

Sample of the Study

Since the survey had been carried out at sample basis, the sample of this study had been selected from Ramechhap district by stratified random sampling method so as to good representation of the population. According to the District Education Office

Ramechhap there are 81 secondary schools. Furthermore the schools were divided in to two strata: urban area schools and rural area schools of the district. Two secondary schools from urban area and two secondary schools from rural area were selected. As far as sample is concerned, the sample of the study included 135 students. Total girl students from grade X were selected from each of the schools. Tamakoshi H. S.

School, Likhu, Ramechhap, Manthali H. S. school Manthali, Ramechhap, Secondary school Chinde Ramechhap and Harisiddi Secondary school, Chaukighar, Ramechhap.

Data collection Tools

In this study, quantitative data collection tools have been used. Especially, the following data collection tools have been developed in order to collect relevant data:

Questionnaire. The researcher modified the questionnaire used by Moyana's (1996). Moyana had done study on "Factors Related to Mathematics Achievement of Secondary Schools Pupils". He had done this study at South Africa, so researcher modified questionnaire matching with Nepali society. Researcher had taken home environment related questionnaire consisting only 38 statements based on the Likert five point scale. Moyana's (1996) scale reduced in terms of the home environmental related factors such as family size, parent's education, parent's income, parent's occupation, study time at home, household workload, parent's occupation, family occupation, study room at home and parent's behaviour.

Validity and Reliability of the tools. The validity of the tools ensured by the expert judgment. Moreover, content validity was checked by giving the questionnaire to the expert in the field and face validity is also a matter of judgment that confirmed by the help of an expert. To find out reliability and validity of scale, a pilot test conducted on sixteen students of grade X of Trikuteshwor Secondary School at Shahare, Dolakha. Reliability of the data collection tools is calculated by performing

Cronbach's Alpha model setting 0.05 significance level on SPSS 24.0. According to Pavot, Diener, colvin and Sandivik (1991) the questionnaire has good internal consistency, with a Cronbach's alpha coefficient reported of 0.85. In the current study, the Cronbach's alpha coefficient was 0.86. The scoring procedure of each items i. e. statement of the instrument as follows:

Table I

Table I. Scoring Procedure

Meaning of rating	Rating positive statement	Rating negative statement
Strongly Agree	5	1
Agree	4	2
Undecided	3	3
Disagree	2	4
Strongly Disagree	1	5

Mathematics Achievement Score. The researcher used mathematics score of the final exam of grade IX to fulfil the objectives to find the effect of home environment on the mathematics achievement of girl students and to find out the relationship between girls achievement in mathematics and family related factors.

Data Collection Procedures

The researcher had granted the permission from the Department of Education. The researcher had arranged appointments with the principals and teachers of visited schools. Dates were fixed for the administration of the questionnaire. At first researcher visited in Secondary School, Chinde, Ramechhap, before presentation of

the tools investigator met the principal and explained the objectives of the study in detail. After grant the permission to allow the study the researcher visited in class of sample students there were 21 girl students in grade 10. And explained the purpose of the study and shared idea to fill questionnaire. Researcher provided the questionnaire to all sample students to get the data with direct supervision. After getting response of all students, the questionnaire was taken back with thanks. Mathematics achievement score of sample girls had been taken from account sector of related school.

In second day researcher had visited to Harisiddi Secondary School, Chaukighar. Like as first sample school she had met the principal and explained the objectives of the study in detail. After grant the permission to allow the study the researcher visited in class of sample students there were 24 girl students in grade 10. And explained the purpose of the study and shared idea to fill questionnaire. Researcher provided the questionnaire to all sample students to get the data with direct supervision. After getting response of all students, the questionnaire was taken back with thanks. Mathematics achievement score of sample girls had been taken from account sector of related school.

In third day researcher had visited Tamakoshi J. J. Higher Secondary school Likhu, Ramechhap. Like as second sample schoolshe did the same activities like previous school. There were 39 girl students at grade 10.

In fourth day researcher had visited to Manthali secondary School, Ramechhap. Like as third sample school she had met the principal and explained the objectives of the study in detail. There were three section of grade 10 in Manthali Secondary School. Class teacher helped to gather all girls in one class room. There were 51 girl students in grade 10. The researcher explained the purpose of the study and shared idea to fill questionnaire. Researcher provided the questionnaire to all

sample students to get the data with direct supervision. After getting response of all students, the questionnaire was taken back with thanks. Mathematics achievement score of sample girls had been taken from office of related school.

Data Analysis Procedures

In this study, after collecting and before analysing the data, it is necessary for organization of data the collected data had been organized by using computer. Verbal data had been converted into suitable numerical form. This study based on quantitative approach and therefore analysis had been done using SPSS 24.0 by Enter method. Questionnaire were divided in various factors such as father's occupation, mother's occupation, father's education, mother's education, father's income, mother's income, family member, study materials, study room, study time, household workload and parent's behaviour. Standard multiple linear regression was calculated to find the effect of above listed independent variables in dependent variable mathematics achievement. Correlation coefficient was used to analyse the relation between all independent variable with dependent variable. Collected data are presented in tables, which may make the data analysis more comprehensive to its reader.

Chapter IV

Analysis and Interpretation of the Data

This chapter deals with the analysis and interpretation of the collected data. The chapter is organized in order of the objectives of the study stated in chapter I.

This quantitative survey type research related to impact of home environment on mathematics achievement of girl students. The objectives of research were to find the effect of home environment on the mathematics achievement of girl students and to find out the relationship between girls achievement in mathematics at family related factors. This research was completed based on survey design selecting four public schools at Ramechhap district. Mathematics achievement and questionnaire were used as data collected tools.

The data collection procedure was started with the administration of questionnaire. The researcher modify the questionnaire used by Moyana (1996). Consisting only 38 statements based on the Likert five point scale, and the mathematics achievement were collected final exam mark ledger of grade IX. Thus, the obtained quantitative data were analysed and interpreted under the following headings.

-) Effect of home environmental factors on student's achievement.
-) Relation between home environmental factors and student's achievement.

Effect of Home Environmental Factors on Student's Achievement.

Mathematics achievement score was collected from four sample school's girl students of grade X and mathematics score was taken from grade IX final exam mark ledger. Questionnaire comparing thirty eight items, among them ten questions were prepared to family related factors, three questions were prepared about girls household work load and twenty five questions were prepared to parent's behaviour for their daughter. Type of home environmental factors were coded in into X_1, X_2, \dots, X_{12} , such as X_1 = Father's occupation; X_2 = Mother's occupation; X_3 = Father's education; X_4 = Mother's education; X_5 = Father's income; X_6 = Mother's income; X_7 = Family member; X_8 = Study materials at home; X_9 = Study room at home ; X_{10} = Study time at home; X_{11} = Household workload; and X_{12} = Parent's behaviour. The individual scores of sample group and questionnaire are presented in Appendix C. To fulfil the first objective from chapter I Standard Multiple Regression was used. The summary of Standard Multiple Regression is presented in the following tables.

Table II: Model Summary of Regression Analysis

	Adjusted R Square	R Square	Degree of freedom	F	Significance
Regression	.930	.936	12	147.798	.000
Residual			121		
Total			133		

In the model summary table given the value Adjusted R Square 0.93, if the sample is small Adjusted R Square statics corrects R Square value to provide a better estimation of the true population value. R Square value is 0.936, due to small

sample size the researcher has taken Adjusted R Square value. From the model summary table significance regression equation was found ($F(12, 121) = 147.798, p < 0.01$) with an R^2 of 0.93. A set the predictors (independent variables) accounted for the 93% of the variance in the mathematics scores.

Table III: Effect of Home Environmental factors on Student's Achievement

	Unstandardized	Standardized	Sig.
	Coefficients	Coefficients	
	B	Beta	
(Constant)	9.538		.000
Father's Occupation	2.074	.249	.000
Mother's Occupation	-.266	-.032	.200
Father's Education	-.717	-.069	.015
Mother's Education	1.579	.117	.034
Father's Income	.728	.080	.010
Mother's Income	-.177	-.025	.460
Family Members	-.323	-.043	.109
Study Material	2.563	.151	.008
Study Room	1.971	.082	.040
Study Time	2.982	.227	.001
Household Workload	.393	.128	.010
Parent's Behaviours	.030	.061	.039

a. Dependent Variable: Mathematics Score

b. Independent Variable: Father's education, Mother's education, Mother's occupation, Father's occupation, Father's income, Mother's income, Family member, Reading materials at home, Study room at home, Household workload and Parent's behaviour.

Interpretation for Effect of Home Environmental Factors on Student's

Achievement

A Standard Multiple Regression had been calculated to find the effect on achievement of girls based on home environment related factors such as father's occupation, mother's occupation, father's education, mother's education, father's income, mother's income, number of family member, study materials, study time, household workload and parent's behaviour. In the table, in the column labelled "Beta" under Standardised Coefficient which is used to compare the effect of independent variable on dependent variable. Unstandardized Coefficient "B" is used to constructing a regression equation. By using Unstandardized Coefficient values listed as B the regression equation is given in Appendix D. Effect of home environmental factor and student's achievement has been explained below separately.

Effect of Father's Occupation

In options of questionnaire, they were given to choose and tick their father's occupation such as none, farmer, Security officer/ driver / mechanic, police man, teacher, Lecture/ manager/ business man, doctor/ professor/ lawyer and other. Among them 45 students ticked the farmer, 14 students ticked the police, four students ticked the lecture/ manager/ business man, six students ticked the teacher, 16 students ticked the doctor/ professor/ lawyer, 40 students ticked the Security officer/ driver / mechanic, 10 students ticked the none. The Beta coefficient for father occupation was 0.249, it means that, 24.9 % of student's achievement was affected by father's occupation. The children of teacher, nurse, business man etc. obtained good marks in mathematics than farmer's children.

Effect of Mother's Occupation

In options of questionnaires were given to choose and tick their mother's occupation such as none, house- maid/ garden- maid/ farmer, cleaner/cook, nurse, teacher, lecturer/ manager/ business woman, doctor/ professor/lawyer and other. Among them 86 students ticked the house- maid/ garden- maid/farmer, 22 students ticked the none, 10 students ticked the cleaner/cook, nine students ticked the lecturer/ manager/ business woman, seven students ticked the other and one student ticked the nurse. The Beta coefficient for mother occupation was -0.032, it means that, low percent of student's achievement was affected by mother occupation. Significance and Beta coefficient of mother occupation show that, mother occupation does not impact more on achievement of students.

Effect of Father's Education

In the given options of questionnaire about father education, 11 students ticked the none, 32 students ticked the grade 1- 5, 20 students ticked in grade 6-8, 25 students ticked the grade 9-12 and three students tick in diploma or degree. The Beta coefficient for father education was -0.069, it means that, low percent of student's achievement was affected by father education.

Effect of Mother's Education

In the given options of questionnaire about mother education, six students ticked the none, 53 students ticked in grade 1-5, 44 students ticked in grade 6-8, 16 students ticked in grade 9-12 and 16 students ticked in diploma or degree. The Beta coefficient for mother education was 0.117, it means that, 11.7% of student's

achievement was affected by mother's education. It shows that mother's education affects more than father's education on mathematics achievement of students.

Effect of Father's Income

Monthly income of father was observed by questionnaire, 11 students ticked the none, 20 students ticked the Rs. 1 – Rs. 2,000, 22 students ticked the Rs. 2001- Rs. 5,000, 19 students ticked the Rs. 5001 – Rs. 1,000, 42 students ticked more than Rs.10,000 and 22 students ticked I don't know. The Beta coefficient for father's income was 0.080, it means that, 8% of student's achievement was affected by father's income.

Effect of Mother's Income

Monthly income of mother was observed by questionnaire, 57 students ticked none, 20 students ticked the Rs. 1 – Rs. 2,000, four students ticked Rs. 2001- Rs. 5,000, 11 students ticked Rs. 5001 – Rs. 1,000, 19 students ticked more than Rs.10,000 and 24 students ticked I don't know. The Beta coefficient for mother income was -0.025, it means that, low percent of student's achievement was affected by mother's income. It shows that mother's income is not affected significantly in achievement of students.

Effect of Number of Family Member

Number of family member were observed by questionnaire, eight students ticked 1 – 3 family member at their home, 18 students ticked four family member, 25 students ticked five family members, 26 students ticked 6 family members, 26 students ticked 7 family members, 10 students were tick in eight family members, 12 students ticked nine family members and 10 ticked more than 10. The Beta coefficient for number of

family member at home was -0.043, it means that, low percent of student's achievement was affected by family size.

Effect of Study Materials at Home

Number of reading materials were observed by questionnaire, 10 students choose their answer in 1-5, 73 students choose the 10 reading materials at home, 30 students ticked the 20 and 22 students ticked the more than 25 reading materials at home. The Beta coefficient for reading materials at home was 0.151, it means that, 15.1% of students achievement was affected by reading materials provided them at home.

Effect of Study Room at Home

Three options were given to observed study room at home such as no study room, common study room and separate study room. Among them, 28 students ticked the no study room at home, 85 students ticked the common study room and 22 ticked the separate study room provide at home. The Beta coefficient for study room at home was 0.082, it means that, 8.2% of student's achievement was affected by study room provided at home.

Effect of Study Time at Home

To determine study time of girls at home were given five options in questionnaire such as no study time, half an hour, an hour, two hours and more than two hours. Among them nine ticked in no study time at home, 56 ticked in half an hour, 41 ticked the an hour study time at home, 13 ticked in two hours study time at home and 16 ticked in more than two hours study time at home. The Beta coefficient for study

time at home was 0.227, it means that, 22.7% of student's achievement was affected by study time provided them at home.

Effect of Household Workload

To observe the effect of household workload on mathematics achievement of girls were given three questionnaire. I always work in field except school time, in this statement 16 students strongly agreed, 10 students agreed, five students undecided, 69 students disagreed and 28 students strongly disagreed. Washing cloth, cooking and cleaning is my responsibility, in this statement 40 students strongly agreed, 26 students agreed, two students undecided, 37 students disagreed and 26 students strongly disagreed. I help my parents in household work when I fell free, in this statement 37 students strongly agreed, 34 students were agreed, five students undecided, 20 students disagreed and 39 students strongly disagreed. The Beta coefficient for house hold work load was 0.128, it means that, 12.8% of student's achievement was affected by house hold workload. Many parents are involved in agriculture so they expect their child's help in field and many parents think washing cloth, cooking and cooking is girl's responsibility due to this traditional thought achievement is negatively affected by household workload.

Effect of Parent's Behaviour

To observe students experience at home about their parents behaviour 25 questionnaire were given including giving value to mathematics by parents, gender discrimination, traditional thought of parents and guide by parents to girl's mathematics learning activities. Many students agreed their parents does not give value for mathematics. Many girls are suffering from gender discrimination at home

and many are suffering from traditional thought of their parents. For example 16 students strongly agreed the statement “My parents force me to change my study room during my menstruation” and 15 students agreed with this statement. Three students strongly agreed the statement “My parents force me to get marriage” and six students agreed with this statement. This situation shows that girls are suffering from traditional thought and gender discrimination by their parents. The Beta coefficient for parent’s behaviour was 0.061, it means that, 6.1% of student’s achievement was affected by parent’s behaviour.

At last, 22.7% of student’s achievement was affected by study time provided them at home, 24.9% of student’s achievement was affected by father’s occupation, and 15.1% of student’s achievement was affected by reading materials at home. Three factors which affected most in achievement are study time, fathers occupation and reading materials at home. Remaining factors such as mother occupation, fathers education, mother’s income and family member has less affected achievement of students.

Relation between Home Environmental Factors and Student’s Achievement

Mathematics score from final exam of grade IX and questionnaire were the data of study. After collected the data, to fulfil the second objective of chapter I, correlation coefficient was used. The summary of correlation coefficient is presented in the following table.

Table IV
Relation between Home Environmental Factors and Achievement of Students

	Father's occupation	Mother's occupation	Father's education	Mother's education	Father's income	Mother's income	Family member	Study materials	Study room	Study time	Household workload	Parent's behaviour
PC	.921	.217	.152	.888	.465	.540	-.373	.887	.805	.921	.916	.898
Mathematics Score (2-tailed)	.000	.011	.079	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	135	135	135	135	135	135	135	135	135	135	135	135

Where, PC = Pearson's Correlations

To measure the relationship between home environment and student's mathematics achievement at secondary level, Pearson's correlation coefficient was calculated. Home environment was considered in various parts such as father's occupation, mother's occupation, father's education, mother's education, father's income, mother's income, number of family member, study materials at home, study room at home, study time at home, house hold workload and parent's behaviour. Relation between home environmental factors and achievement of students has been explained below separately.

Father's Occupation and Achievement of Students

Parent's occupation is interrelated with their children, it helps to create good or bad environment for their education. Study time, helping to do homework etc. are also connected with father's occupation. So that, the relationship between students achievement and father's occupation attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity.

There was positive correlation between the two variables $r=0.921$, $n= 135$ and $P=0.000$ where $p < 0.05$ with strong positive level of father occupation is associated with strong levels of achievement in mathematics of girl students. Analysis of correlation coefficient show that father occupation is more related with achievement of students.

Mother's Occupation and Achievement of Students

Mother occupation decided how much timeshe can give for their children andwhat type of home environment she can create for children's education. The relationship betweenstudent's achievement and Mother Occupationattainment was calculated using Pearson's product moment correlationcoefficient.Preliminary analysis were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was positive correlation between the two variables $r = 0.217$, $n = 135$ and $p=0.011$ where $p < 0.05$, with weak positive levels of mother occupation attainment associated with weak levels of achievement of students. It indicated that mother occupation has less relation onachievement of students.

Father's Education and Achievement of Students

Educated parents can create good environment for their children's mathematics learning. They can support to obtain good marks in mathematics by several ways. The relationship betweenstudent's achievement and father's education attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.152$, $n = 135$ and $p = 0.079$ $p > 0.05$, with the weak levels of father education attainment associated with weak levels of achievement of students and also

not significance. It shows that father education did not have relation with achievement of students.

Mother's Education and Achievement of Students

Mother is the first teacher of a child, an educated mother provides good environment for girl's mathematics learning and clarifies the value of mathematics. She can show positive attitude and behaviour in learning. The relationship between student's achievement and mother's education attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure, no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.888$, $n = 135$ and $p = 0.000$ $p < 0.05$, with the strong levels of mother education attainment associated with strong levels of achievement of students. It shows that mother education has highly related with achievement of students.

Father's Income and Achievement of Students

Father's income means monthly income of father. Father income show the economic condition of family. Good economic condition easily fulfil children's basic and extra need, it may create good environment physically and mentally to child. The relationship between student's achievement and father income attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.465$, $n = 135$ and $p = 0.00$ $p < 0.05$, with the weak levels of attainment father income

associated with weak levels of achievement of students. It showed that father income has low related with achievement of students.

Mother's Income and Achievement of Students

Mother's income can make a family economically stronger. If mother has good income, girl can fulfil her basic and extra need easily. The relationship between student's achievement and mother's income attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.540$, $n = 135$, $p = 0.000$ where $p < 0.05$, with the moderate levels of attainment mother's income associated with moderate levels of achievement of students.

Family Size and Achievement of Students

Family size is a number of members in family. There are two types of family, they are small family and big family. Small family has less than or equal to four members and big family has more than four members in family. Small family may more qualitative in social status, small family parents easily provide mathematics learning environment and facility to their child. It helps to good achievement of children. The relationship between student's achievement and family size attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are negative correlation between the two variables $r = -0.373$ $n = 135$ and $p = 0.000$ where $p < 0.05$, with the weak negative levels of attainment family size associated with weak negative level of achievement

of students. It shows that family size related with achievement of students. Small family's girl achieve good marks than the girl from big family.

Study Materials at Home and Achievement of Students

Reading materials are the main tool of learning process. The relationship between student's achievement and number of reading materials at home attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.887$, $n = 135$, $p = 0.000$ where $p < 0.05$, with the strong positive levels of attainment father income associated with strong positive levels of achievement of students. It shows number of reading materials at home is related with achievement of students.

Study Room at Home and Achievement of Students

Appropriate study room is necessary for good learning at home. Here study room are in two types one is own study room and common study room. The relationship between student's achievement and Study room at home attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.805$, $n = 135$, $p = 0.000$ where $p < 0.05$, with the strong positive levels of attainment Study room at home is associated with strong positive levels of achievement of students. It shows that Study room at home is highly related with achievement of students.

Study Time at Home and Achievement of Students

Study time at home is most important for mathematics achievement. One who studies mathematics subject more time at home may obtain good achievement. The relationship between student's achievement and study time at home attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.921$, $n = 135$, $p = 0.000$ where $p < 0.05$, with the strong positive level of attainment study time at home associated with strong positive levels of achievement of students. It shows that study time at home strongly related with achievement of students.

Parent's Behavior and Achievement of Students

In this section thought of parents about mathematics subject, giving value for mathematics subject, guiding, gender discrimination and traditional thought of parents are including. The relationship between student's achievement and parent's behaviour attainment was calculated using Pearson's product moment correlation coefficient. Preliminary analysis were performed to ensure no violation of the assumption of normality, linearity, homoscedasticity. There are positive correlation between the two variables $r = 0.898$, $n = 135$, $p = 0.000$ where $p < 0.05$, with the strong positive levels of parents behaviour associated with strong positive levels of achievement of students. It shows that students and their parent's behaviour related factors strongly related with achievement of students.

Chapter V

Summary, Findings, Conclusion and Recommendations

This chapter includes with summary, findings, conclusions, recommendations and implications. After analysing and interpretation of the collected data according to design an attempt has been made to summarize and enlist the findings, providing some recommendations and implications for pedagogical purpose.

Summary

This is a quantitative research related to Impact of Home Environment on Mathematics Achievement of Girl Students. The objectives of this research were to find out the effect of home environment on the mathematics achievement of girl students and to find out the relationship between girls achievement in mathematics and family related factors. The study was conducted based on survey design which is included in quantitative research approach. Selecting four public schools at Ramechhap district by stratified random sampling method. The sample of the study included 135 students. Mathematics score and questionnaire were used as data collection tools. The reliability of these tools had been determined performing Cronbach's alpha by using SPSS 24.0 and validity of the tools was ensured by expert judgment. To measure the effect of home environment on mathematics achievement of girl student's standard multiple regression had been calculated and to measure relationship between girls achievement in mathematics and family related factors calculated by Pearson's correlation coefficient. Analysis was done using SPSS 24.0 by Enter method.

Finding

In this study researcher has selected four public secondary level schools in Ramechhap district for the fulfilment objectives of the study. All together 135 students of grade X were considered as the sample. Data was analysed by standard multiple regression and Pearson correlation coefficient. After statistical analysis of the collected data the researcher produced the following results as follows:

-) It is shown that the student's achievement has 24.9% affected by father's occupation, student's achievement has 11.7% affected by mother's education and student's achievement has 8% affected by father's income. It shows that parent's occupation, education and income has strongly affected to student's achievement.
-) It is shown that student's achievement has 15.1% affected by reading materials at home. Reading materials provided at home by parents play energetic role in girl's mathematics learning and achievement.
-) It is shown that student's achievement has 22.7% affected by study time, student's achievement has 12.8% affected by household workload and 6.1% affected by parent's behaviour.
-) Correlation between father's occupation and student's achievement is 0.921, correlation between study time and student's achievement is 0.921, correlation between mother's education and achievement is 0.888, correlation between reading materials and achievement is 0.887, correlation between household work load and achievement is 0.916 correlation between study room and achievement is 0.805 and correlation between parent's behaviour and achievement is 0.898. Mother's education, father's occupation, reading

materials at home, study room, study time, house hold workload and parent's behaviour strongly interrelated with achievement of student. Educated and literate mother's children have good achievement than illiterate. The children of teacher, nurse, business man etc. their children obtains good marks in mathematics than farmer's children.

-) Father's income and achievement correlation coefficient is 0.465 which weak positive level, mother's income and achievement correlation coefficient is 0.540 which is moderate level of mother's income associated with moderate level of achievement of student's achievement. Children with good family income have good achievement.
-) The correlation coefficient between number of family member and student's achievement is -0.373 which is in weak negative relationship. It means that, the student from less member of family obtained better achievement than student from large number of family member.
-) Result has shown that number of reading materials at home is interrelated with achievement. The student with more reading materials at home has increase mathematics achievement.
-) Girls who have given more time in mathematics has scored good marks.
-) Result has shown that study room at home interrelated with achievement of students.
-) Parent's behaviour including guide to their children, gender discrimination, giving value by parents for mathematics subject and traditional thought of parents are significantly influence on mathematics achievement of students.

Conclusion

Student's participation of different public schools of Ramechhap district has shown specially the home environment is the key factor in good achievement of students. Most of the parents are involved in agriculture sector. So they cannot provide sufficient study time at home. Due to low family income, reading materials and study room are not available. Most of the parents thought is quite odd. For instance, girls cannot learn mathematics, mathematics is not for girls. They give household work like cooking, washing etc. only to girls. Due to this gender discrimination, achievement of girls has negative effects. Traditional thought of parents, gender discrimination, household workload and early marriage concept should be avoided by parents for girl's better achievement. Proper study room, study time and learning materials should be provided by parents for good achievement. Most of the parents are uneducated. So they cannot guide mathematics to their children at home. Among all factors father's occupation, mother's education, reading materials at home, study room, study time, father's income, household workload and parent's behaviour have great effects and relation in student's achievement. Thus, achievement of girl students is determined by many different responsible factors of home environment.

Recommendations for Further Research

The study has focused on improvement of girl student's mathematics achievement by impact of home environment is based on survey design with only 135 sample size. Other researcher may carry out a study with in large sample in order to increase effectiveness of home environment on mathematics achievement. Based on the research, the researcher has made following recommendations for the further study.

-) Similar study should be conducted at all level of school and samples can be selected from different districts.
-) Similar type of studies with large sample size could be taken in order to obtain more valid findings for broader generalization.
-) It is only related in impact of home environmental factor on mathematics achievement of girl students. It is recommended to find out other factors which impact on mathematics achievement to girl students.
-) Similar study will be appropriate for basic school level to higher level.
-) Parent's awareness programmes should be conducted.
-) It is recommended to study, why the father's education does not effect on the achievement of students?

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Appendix A

Dear students,

I am going to study about “Impact of home environment on mathematics achievement of girl students”. For this purpose I have distributed some statements concerned with the topic. Some questions are related to you and some are about your family. Tick () the correct answer. Some questions are based on your experiences. There is no right or wrong answer. The right answer is your opinion or feeling, study the statement carefully and give your own opinion by putting tick mark () where SA= Strongly Agree, A= Agree, U= Undecided, D= Disagree and SD = Strongly Disagree.

Questionnaire for Students

Name:

Date:

Name of school:

Grade:

Read the following statement carefully and tick () the best answer.

1. Father's occupation:

None [1] ()

Farmer [2] ()

Security

officer/Driver/Mechanic [3] ()

Police man [4] ()

Impact of Home...

Teacher [5] ()

Lecturer/Manager/Business man [6] ()

Doctor/ Professor/ Lawyer [7] ()

Other [8] ()

2. Mother's occupation:

None [1] ()

House-maid/Garden-maid / Farmer [2] ()

Cleaner/Cook [3] ()

Typist/Secretary/Nurse [4] ()

Teacher [5] ()

Lecturer/Manager/Business woman [6] ()

Doctor/Professor/Lawyer [7] ()

Other [8] ()

3. Father's education:

None [1] ()

Grade 1 - 5 [2] ()

Grade 6 – 8 [3] ()

Grade 9 - 12 [4] ()

diploma or degree [5] ()

4. Mother's education:

None [1] ()

Grade 1 - 5 [2] ()

Grade 6 – 8 [3] ()

Grade 9 - 12 [4] ()

diploma or degree [5] ()

5. Monthly income of father:

None [1] ()

Rs.1 – Rs.2000 [2] ()

Rs.2001 – Rs.5000 [3] ()

Rs.5001 – Rs.10000 [4] ()

R10001 and above [5] ()

I don't know [6] ()

6. Monthly income of mother:

None [1] ()

Rs.1 – Rs.2000 [2] ()

Rs.2001 – Rs.5000 [3] ()

Rs.5001 – Rs.10000 [4] ()

R10001 and above [5] ()

I don't know [6] ()

7. Number of members in the family (yourself included).

1 – 3 [1] ()

4 [2] ()

5 [3] ()

6 [4] ()

7 [5] ()

8 [6] ()

9 [7] ()

10 [8] ()

8. Number of study materials (e.g. magazines, Mathematics books, newspapers, etc.)

at home:

5 or less [1] ()

10 [2] ()

20 [3] ()

25 and more [4] ()

9. Study room at home:

No study room [1] ()

Common study room [2] ()

Separate study room [3] ()

10. Study time at home:

None [1] ()

Half an hour [2] ()

1 hour [3] ()

2 hours [4] ()

More than 2 hours [5] ()

The rest of the questionnaire contains statements on how you feel about the activities in your Mathematics learning at home. There are no right or wrong answers. Your opinion is what is wanted. Tick () in the box and provide your choice to each statement truthfully.

Impact of Home...

		SA	A	U	D	SD
11	My parents force me to change my study room during my menstruation time.					
12	My parents force me to get marriage.					
13	My parents show equal behaviour between son and daughter.					
14	My parents do not send to me tuition due to male tutor.					
15	My parents buy me everything necessary for my mathematics study eg. Text book, study guide, calculator etc.					
16	My parents say only males should choose careers which need mathematics.					
17	My parents are interested in my mathematics achievement.					
28	My parents regard mathematics is subject for male.					
19	My parents don't send me for buying goods rather than brother.					
20	My parents provide me less study time than brother.					
21	My parents give household work equally to brother and me.					
22	I always work in field except school time.					

23	Washing clothes, cooking and cleaning is my responsibility at home.					
24	I help my parents in house hold work when I fell free.					
25	My father or mother help me with mathematics home work.					
26	No one help me doing mathematics homework so I feel mathematics difficult.					
27	My parents enjoy talking to me about mathematics.					
38	My parents encourage me to work hard in mathematics.					
29	My parents except me to attain good marks in mathematics.					
30	My father or mother is interested in mathematics.					
31	My father or mother is bored by mathematics.					
32	My parents always talk about how difficult mathematics is when I approach them for help.					
33	My mother thinks mathematics is west of time.					
34	My parents encourage me to use a calculator during mathematics problem solving.					

Impact of Home...

35	My parents expect me to attain qualifications for which mathematics a prerequisite.					
36	My parents often express their dislike of mathematics.					
37	I have no bookson mathematics at home.					
38	My parents think mathematics is more important for boys than for girls.					

Thank you for your co-operation.

Appendix B

Score obtained by girls in questionnaire,

.

Questionnaire for Students

Name:

Date:

Name of school:

Grade:

Read the following statement carefully and tick () the best answer.

1. Father's occupation:

None	[1]	()	10
Farmer	[2]	()	45
Security officer/Driver/Mechanic	[3]	()	40
Police man	[4]	()	14
Teacher	[5]	()	6
Lecturer/Manager/Business man	[6]	()	4
Doctor/ Professor/ Lawyer	[7]	()	16

Other [8] ()

2. Mother's occupation:

None [1] () 22

House-maid/Garden-maid/ [2] () 86

Farmer

Cleaner/Cook [3] () 10

Typist/Secretary/Nurse [4] () 1

Teacher [5] ()

Lecturer/Manager/Business [6] () 9

woman

Doctor/Professor/Lawyer [7] ()

Other [8] () 7

3. Father's education:

None [1] () 11

Impact of Home...

Grade 1 - 5	[2]	()	32
Grade 6 – 8	[3]	()	20
Grade9 - 12	[4]	()	25
Diploma or degree	[5]	()	47
4. Mother's education:			
None	[1]	()	6
Grade 1 - 5	[2]	()	53
Grade 6 – 8	[3]	()	44
Grade 9 - 12	[4]	()	16
diploma or degree	[5]	()	16
5. Monthly income of father:			
None	[1]	()	11

Impact of Home...

Rs.1 – Rs.2000	[2]	()	20
Rs.2001 – Rs.5000	[3]	()	22
Rs.5001 – Rs.10000	[4]	()	19
R10001 and above	[5]	()	42
I don't know	[6]	()	22

6. Monthly income of mother:

None	[1]	()	57
Rs.1 – Rs.2000	[2]	()	20
Rs.2001 – Rs.5000	[3]	()	4
Rs.5001 – Rs.10000	[4]	()	11
R10001 and above	[5]	()	19

I don't know	[6]	()	24
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7. Number of members in the family (yourself included):

1 – 3	[1]	()	8
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4	[2]	()	18
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5	[3]	()	25
---	-----	-----	----

6	[4]	()	26
---	-----	-----	----

7	[5]	()	26
---	-----	-----	----

8	[6]	()	10
---	-----	-----	----

9	[7]	()	12
---	-----	-----	----

10 and more	[8]	()	10
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8. Number of study materials (e.g. magazines, Mathematics books, newspapers, etc.) at home:

5 or less	[1]	()	10
10	[2]	()	73
20	[3]	()	30
25 and more	[4]	()	22

9. Study room at home:

No study room	[1]	()	28
Common study room	[2]	()	85
Separate study room	[3]	()	22

10. Study time at home:

None	[1]	()	9
Half an hour	[2]	()	56

Impact of Home...

1 hour	[3]	()	41
2 hours	[4]	()	13
More than 2 hours	[5]	()	16

The rest of the questionnaire contains statements on how you feel about the activities in your Mathematics learning at home. There are no right or wrong answers. Your opinion is what is wanted. Tick () in the box and provide your choice to each statement truthfully.

		SA	A	U	D	SD
11	My parents force me to change my study room during my menstruation time.	16	15	7	47	50
12	My parents force me to get marriage.	3	6	5	41	80
13	My parents show equal behaviour between son and daughter.	78	36		8	13
14	My parents do not send to me tuition due to male tutor.	11	4	11	39	70
15	My parents buy me everything necessary for my mathematics study eg. Text book, study guide, calculator etc.	88	29		8	10
16	My parents say only males should choose careers which need mathematics.	13	7	6	42	67

17	My parents are interested in my mathematics achievement.	50	46	11	20	8
28	My parents regard mathematics is subject for male.	15	12	13	44	51
19	My parents don't send me for buying goods rather than brother.	10	15	15	48	47
20	My parents provide me less study time than brother.	14	13	8	53	47
21	My parents give household work equally to brother and me.	54	44	6	21	10
22	I always work in field except school time.	18	15	5	69	28
23	Washing clothes, cooking and cleaning is my responsibility at home.	40	26	2	39	28
24	I help my parents in house hold work when I fell free.	68	45		12	11
25	My father or mother help me with mathematics home work.	34	25	6	41	29
26	No one help me doing mathematics homework so I feel mathematics difficult.	28	28	3	53	24
27	My parents enjoy talking to me about mathematics.	29	56	14	13	11
38	My parents encourage me to work hard in mathematics.	55	61	8	5	6

29	My parents expect me to attain good marks in mathematics.	66	51	5	7	6
30	My father or mother is interested in mathematics.	43	51	9	17	15
31	My father or mother is bored by mathematics.	5	17	13	58	42
32	My parents always talk about how difficult mathematics is when I approach them for help.	9	14	18	45	49
33	My mother thinks mathematics is a waste of time.	4	14	6	56	55
34	My parents encourage me to use a calculator during mathematics problem solving.	61	47	5	7	15
35	My parents expect me to attain qualifications for which mathematics is a prerequisite.	55	51	10	9	10
36	My parents often express their dislike of mathematics.	47	48	15	12	13
37	I have no books on mathematics at home.	13	21	5	33	63
38	My parents think mathematics is more important for boys than for girls.	9	13	8	42	63

Thank you for your co-operation.

Appendix C

Student Personal Score

Students ID	FO	MO	FE	ME	FI	MI	FM	SM	SR	ST	HW	PB	Total	Math Score
1	2	2	2	2	6	1	4	2	1	2	12	46	82	38
2	3	2	2	3	6	4	6	3	2	3	14	100	148	49
3	3	2	5	3	4	1	7	2	2	3	12	75	119	44
4	2	2	5	2	4	1	4	2	2	3	14	46	87	40
5	2	6	4	2	4	2	5	2	1	2	13	47	90	40
6	6	2	5	4	5	5	2	4	3	4	15	116	171	65
7	2	2	5	2	4	2	4	2	1	2	10	40	76	34
8	2	2	5	2	4	1	3	2	1	2	12	45	81	37
9	3	8	4	2	5	2	8	2	1	2	11	44	92	35
10	3	2	2	3	2	1	8	3	2	4	15	99	144	49
11	3	2	2	3	2	1	8	3	2	3	15	98	142	47
12	5	2	5	4	5	5	2	4	3	4	15	122	176	62
13	4	2	4	4	5	6	4	3	2	4	15	106	159	56
14	6	2	2	4	5	1	4	4	2	4	14	118	166	65
15	3	2	1	3	3	1	8	2	2	3	12	58	98	43
16	5	6	5	4	5	6	3	4	3	4	15	120	180	60
17	2	2	5	2	5	6	5	2	2	2	10	53	96	40
18	4	2	5	3	5	5	2	3	2	3	15	104	154	50
19	3	2	5	3	2	2	7	2	2	3	14	56	97	42
20	5	2	4	4	5	5	3	3	3	4	15	112	165	60
21	5	2	5	4	5	4	6	3	3	4	15	112	168	58
22	4	2	4	4	5	4	6	3	2	4	15	110	163	56
23	3	2	2	3	4	3	7	2	2	3	10	80	121	45
24	4	2	5	4	4	5	5	3	2	4	10	112	162	56
25	7	2	3	5	4	5	2	4	3	5	15	123	178	72
26	3	2	3	2	4	2	4	2	1	2	15	47	87	40
27	3	6	3	3	4	4	3	2	2	3	15	54	102	43
28	4	2	5	3	5	5	1	3	2	3	15	106	154	50
29	3	2	2	3	3	2	6	3	2	3	14	76	119	45
30	3	2	2	3	3	2	6	2	2	3	14	49	91	42
31	3	2	2	3	3	3	3	2	2	3	15	47	88	41
32	3	2	2	3	2	2	3	2	2	3	15	54	93	43
33	2	2	5	2	5	4	3	2	1	2	11	40	79	34
34	1	2	3	1	3	2	5	1	1	1	8	23	51	18

35	1	2	5	1	5	2	5	1	1	1	7	22	53	16
36	1	2	2	1	1	1	5	1	1	1	6	13	35	10
37	7	2	1	5	6	6	2	4	3	5	15	123	179	71
38	6	8	5	4	5	5	5	4	3	5	15	114	179	65
39	3	6	5	3	5	4	4	3	2	3	14	93	145	47
40	7	8	1	5	6	6	2	4	3	5	14	125	186	78
41	7	6	5	5	7	5	3	4	3	5	14	123	187	70
42	3	2	5	2	5	1	7	2	1	2	12	46	88	40
43	3	8	5	3	6	6	4	2	2	3	12	58	112	44
44	4	3	5	3	6	3	2	3	2	3	5	108	157	52
45	2	1	4	2	5	1	7	2	1	2	12	47	86	40
46	3	1	4	3	5	1	2	2	2	2	14	46	85	40
47	3	8	4	2	5	4	3	2	2	2	13	46	94	40
48	3	1	5	3	5	6	3	2	2	3	15	51	99	42
49	4	6	5	3	5	5	7	3	2	3	15	119	177	52
50	7	1	5	5	5	5	8	4	3	5	15	123	186	77
51	2	3	1	2	2	1	7	2	2	2	14	60	98	40
52	3	1	4	3	6	6	6	2	2	3	15	69	120	43
53	3	2	4	2	5	6	3	2	2	2	14	61	106	40
54	2	1	5	2	5	6	5	2	1	3	13	59	104	40
55	4	4	4	3	5	4	1	3	2	4	15	107	156	53
56	4	1	5	3	5	1	5	3	2	3	15	92	139	48
57	2	1	1	2	1	1	1	2	2	2	13	58	86	40
58	7	8	3	5	6	6	1	4	3	5	14	125	187	76
59	7	2	5	5	5	5	3	4	3	5	15	116	175	68
60	3	2	5	2	2	2	8	3	2	2	15	56	102	40
61	2	2	2	2	2	1	3	2	2	3	15	56	92	40
62	3	2	2	2	2	1	4	3	2	2	15	55	93	40
63	2	1	1	2	2	1	7	2	1	3	15	54	91	40
64	2	2	3	2	1	1	8	2	2	2	15	60	100	40
65	2	2	2	3	3	1	2	2	2	2	12	61	94	40
66	3	2	2	2	2	1	3	2	2	2	13	56	90	40
67	3	2	2	3	3	2	2	2	2	2	15	71	109	41
68	2	6	3	3	3	2	5	2	2	3	15	57	103	40
69	2	2	4	3	5	4	4	3	1	2	15	59	104	40
70	4	2	1	4	3	1	2	3	2	3	15	119	159	55
71	5	6	2	4	2	4	5	4	2	4	15	121	174	56
72	2	1	5	2	5	1	3	4	2	2	13	47	87	40
73	2	2	5	3	6	6	2	2	2	2	14	48	94	40

Impact of Home...

74	3	1	4	2	6	2	3	2	2	2	15	47	89	40
75	2	2	2	2	6	6	2	2	2	3	15	47	91	40
76	2	2	5	2	4	1	5	2	2	3	12	45	85	40
77	3	1	5	3	5	6	4	2	2	2	13	48	94	40
78	3	2	2	2	3	1	5	3	1	3	13	50	88	40
79	3	2	5	3	6	1	7	3	2	3	14	48	97	40
80	2	2	2	2	6	6	5	2	2	2	15	45	91	40
81	2	2	3	2	6	1	3	2	2	2	14	48	87	40
82	2	2	4	3	4	1	3	3	2	2	14	47	87	40
83	2	2	5	3	5	1	6	2	2	3	13	46	90	40
84	2	2	2	2	2	1	4	2	2	2	12	46	79	40
85	2	2	2	2	2	1	6	2	2	2	15	51	89	40
86	3	2	3	4	3	1	4	2	1	3	15	49	90	40
87	2	2	2	2	2	3	1	2	2	2	15	46	81	40
88	2	2	2	2	3	1	5	2	2	3	13	46	83	40
89	1	2	2	2	3	1	4	2	2	2	14	45	80	40
90	3	2	5	2	4	1	5	2	2	2	14	45	87	40
91	2	2	2	2	3	1	5	2	2	2	12	47	82	40
92	4	2	5	5	4	6	6	3	2	3	15	107	162	53
93	3	1	4	2	5	1	2	2	2	2	15	49	88	40
94	2	3	3	2	3	1	5	2	1	2	14	49	87	40
95	2	3	2	2	3	6	4	2	2	2	13	49	90	40
96	4	3	4	2	4	6	3	2	2	2	14	47	93	40
97	2	2	1	3	6	1	4	2	2	2	14	47	86	40
98	2	3	2	3	4	1	7	2	2	2	14	45	87	40
99	3	1	1	3	1	1	3	2	2	3	15	53	88	42
100	2	3	5	3	5	1	5	2	2	2	12	46	88	40
101	7	2	5	5	5	5	3	4	2	5	14	124	181	73
102	1	1	2	2	1	1	4	1	1	2	10	32	58	28
103	1	2	3	2	1	1	5	1	1	1	11	30	59	26
104	4	2	5	3	3	1	4	3	2	3	15	104	149	50
105	1	2	4	1	4	2	4	1	1	1	9	25	55	22
106	7	1	3	5	4	6	1	4	3	5	15	125	179	85
107	7	2	5	3	3	5	5	3	2	3	15	106	159	52
108	6	2	5	4	5	5	3	4	3	4	15	112	168	62
109	1	2	2	1	1	2	7	1	1	1	7	14	40	12
110	1	2	4	1	1	1	8	1	1	1	7	22	50	18
111	2	2	3	2	3	1	6	2	1	2	10	41	75	34
112	2	2	3	2	2	1	4	2	1	2	10	10	41	34

113	1	1	2	2	1	2	5	1	1	1	9	23	49	23
114	2	2	3	2	2	2	4	2	2	2	11	41	75	34
115	7	2	3	5	6	5	1	4	3	5	15	125	181	95
116	7	2	4	5	6	5	1	4	3	5	15	125	182	91
117	2	2	1	2	1	1	7	2	2	2	14	45	81	40
118	2	2	2	2	6	1	4	2	2	3	14	45	85	40
119	4	3	5	3	1	4	2	2	2	2	14	47	89	40
120	2	2	1	2	2	1	8	2	2	2	13	49	86	40
121	7	1	4	5	6	5	3	3	3	5	14	124	180	73
122	3	6	4	4	6	6	3	2	2	2	13	43	94	40
123	3	1	4	4	6	6	4	2	2	2	12	44	90	40
124	7	8	4	5	5	5	2	4	3	5	14	123	185	69
125	7	3	4	5	5	6	2	4	3	5	15	125	184	78
126	7	3	5	5	5	6	2	4	3	5	14	122	181	69
127	5	1	4	3	5	1	4	3	2	3	15	106	152	52
128	3	1	5	3	3	2	8	3	2	3	15	54	102	44
129	2	2	3	2	3	1	5	2	1	2	12	45	80	38
130	2	2	3	2	2	1	3	2	3	2	11	44	74	37
131	2	2	3	2	2	1	5	1	1	1	8	30	58	25
132	3	2	3	3	3	1	5	2	2	3	13	49	89	40
133	3	1	5	2	6	1	4	2	2	2	14	49	91	40
134	2	2	5	3	5	6	4	2	2	2	13	50	96	40
135	3	2	5	3	2	2	5	3	2	2	13	46	88	40

FO – Father’s Occupation

MO – Mother’s Occupation

FE – Father’s Education

ME – Mother’s Education

FI – Father’s Income

MI – Mother’s Income

FM – Family Member

SM – Study Materials

SR – Study Room

ST – Study Time

HW – Household Workload

PB – Parent’s Behaviour

Appendix D

Effect of Home Environmental Factors on Student's Achievement

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Parents Behaviour, Father education, Mother occupation, Family member, Father income, Mother income, Study room, Mother education, Study materials, Study time, Father occupation, Household workload	.	Enter

a. Dependent Variable: Mathematics Score

b. All requested variables entered.

Model Summary^b

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
	.968 ^a	.936	.930	3.843	.936	147.798	.000

a. Independent Variable: Father education, Mother education, Mother occupation, Father occupation, Father income, Mother income, Family member, Reading materials at home, Study room at home, Household workload and Parents behaviour.

b. Dependent Variable: Mathematics Score

ANOVA^a

	Sum of Squares	df	Mean Square	F	Sig.
Regression	26199.860	12	2183.322	147.798	.000 ^b
Residual	1787.457	121	14.772		
Total	27987.317	133			

a. Dependent Variable: Mathematics Score

b. Independent Variable: Father education, Mother education, Mother occupation, Father occupation, Father income, Mother income, Family member, Reading materials at home, Study room at home, Household workload and Parents behaviour.

Coefficients^a

	Unstandardized	Standardized	t	Sig.
	Coefficients	Coefficients		
	B	Beta		
(Constant)	9.538		4.045	.000
Father's Occupation	2.074	.249	3.838	.000
Mother's Occupation	-.266	-.032	-1.288	.200
Father's Education	-.717	-.069	-2.471	.015
Mother's Education	1.579	.117	2.142	.034
Father's Income	.728	.080	2.635	.010
Mother's Income	-.177	-.025	-.741	.460
Family Members	-.323	-.043	-1.616	.109
Study Material at Home	2.563	.151	2.704	.008
Study Room	1.971	.082	2.074	.040
Study Time	2.982	.227	3.537	.001
Household Workload	.393	.128	1.657	.010
Parent's Behaviours	.030	.061	.848	.039

Participants predicted Mathematics Achievement is equal to $9.538 + 2.074 X_1 - 0.266 X_2 - 0.717 X_3 + 1.579 X_4 + 0.728 X_5 - 0.177 X_6 - 0.323 X_7 + 2.563 X_8 + 1.971 X_9 + 2.982 X_{10} + 0.393 X_{11} + 0.30 X_{12}$, where, X_1 = Father occupation ; X_2 = Mother occupation; X_3 = Father education; X_4 = Mother education; X_5 = Father income; X_6 = Mother income; X_7 = Family member; X_8 = Study materials at home ; X_9 = Study room at home; X_{10} = Study time at home ; X_{11} = Household workload; and X_{12} = Parents behaviour.

Appendix E

Relation between Home Environmental Factors and Student's Achievement

Correlations

		FO	MO	FE	ME	FI	MI	FM	SM	SR	ST	Mathematics Score	HW	PB
FO	Pearson	1	.253**	.242**	.873**	.426**	.569**	-	.862**	.764**	.884**	.921**	.878**	.879**
	Correlation							.363**						
	Sig. (2-tailed)		.003	.005	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MO	N	135	135	135	135	135	135	135	135	134	135	135	135	135
	Pearson	.253**	1	.079	.232**	.214*	.296**	-.090	.237**	.205*	.250**	.217*	.215*	.231**
	Correlation													
FE	Sig. (2-tailed)	.003		.363	.007	.013	.000	.302	.006	.017	.003	.011	.012	.007
	N	135	135	135	135	135	135	135	135	134	135	135	135	135
	Pearson	.242**	.079	1	.191*	.451**	.357**	-.058	.234**	.129	.146	.152	.153	.191*
ME	Correlation													
	Sig. (2-tailed)	.005	.363		.026	.000	.000	.501	.006	.139	.090	.079	.076	.026
	N	135	135	135	135	135	135	135	135	134	135	135	135	135
FI	Pearson	.873**	.232**	.191*	1	.433**	.577**	-	.806**	.753**	.871**	.888**	.848**	.835**
	Correlation							.327**						
	Sig. (2-tailed)	.000	.007	.026		.000	.000	.000	.000	.000	.000	.000	.000	.000
MI	N	135	135	135	135	135	135	135	135	134	135	135	135	135
	Pearson	.426**	.214*	.451**	.433**	1	.534**	-	.414**	.374**	.415**	.465**	.421**	.402**
	Correlation							.316**						
FM	Sig. (2-tailed)	.000	.013	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	135	135	135	135	135	135	135	135	134	135	135	135	135
	Pearson	.569**	.296**	.357**	.577**	.534**	1	-	.462**	.512**	.516**	.540**	.547**	.523**
FM	Correlation							.375**						
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	135	135	135	135	135	135	135	135	134	135	135	135	135
FM	Pearson	-	-.090	-.058	-	-	-	1	-	-	-	-.373**	-	-
	Correlation				.327**	.316**	.375**		.294**	.362**	.276**		.307**	.282**

RM	Sig. (2-tailed)	.000	.302	.501	.000	.000	.000	.001	.000	.001	.000	.000	.001	
	N	135	135	135	135	135	135	135	134	135	135	135	135	
	Pearson Correlation	.862**	.237**	.234**	.806**	.414**	.462**	-	.731**	.847**	.887**	.864**	.882**	
	Sig. (2-tailed)	.000	.006	.006	.000	.000	.000	.001	.000	.000	.000	.000	.000	
	N	135	135	135	135	135	135	135	134	135	135	135	135	
	Pearson Correlation	.764**	.205*	.129	.753**	.374**	.512**	-	.731**	1	.761**	.805**	.777**	.733**
SR	Sig. (2-tailed)	.000	.017	.139	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	134	134	134	134	134	134	134	134	134	134	134	134	
	Pearson Correlation	.884**	.250**	.146	.871**	.415**	.516**	-	.847**	.761**	1	.921**	.899**	.871**
	Sig. (2-tailed)	.000	.003	.090	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
	N	135	135	135	135	135	135	135	135	134	135	135	135	135
	Pearson Correlation	.921**	.217*	.152	.888**	.465**	.540**	-	.887**	.805**	.921**	1	.916**	.898**
Mathematics Score	Sig. (2-tailed)	.000	.011	.079	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	135	135	135	135	135	135	135	134	135	135	135	135	
	Pearson Correlation	.878**	.215*	.153	.848**	.421**	.547**	-	.864**	.777**	.899**	.916**	1	.933**
	Sig. (2-tailed)	.000	.012	.076	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	135	135	135	135	135	135	135	135	134	135	135	135	135
	Pearson Correlation	.879**	.231**	.191*	.835**	.402**	.523**	-	.882**	.733**	.871**	.898**	.933**	1
PB	Sig. (2-tailed)	.000	.007	.026	.000	.000	.000	.001	.000	.000	.000	.000	.000	
	N	135	135	135	135	135	135	135	134	135	135	135	135	
	Pearson Correlation	.879**	.231**	.191*	.835**	.402**	.523**	-	.882**	.733**	.871**	.898**	.933**	

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Where,

FO – Father's Occupation

MO – Mother's Occupation

FE – Father's Education

ME – Mother's Education

FI – Father's Income

MI – Mother's Income

FM – Family Member

SM – Study Materials

SR – Study Room

ST – Study Time

HW – Household Workload

PB – Parent's Behaviour