Chapter - I

INTRODUCTION

Background of the Study

Home environment is considered a powerful influence on the child. The first step of learning is taught by their environment of home which is directly associated with students. A comfortable and attractive classroom is on environment which enables to stimulate learning (Ahrentzen & Evas, 1989) . In addition, the presentable physical environment strengthen the role of promoting student achievement (Holliman &Anderson ,1986), (Welberg, 1991) mentioned that a conductive environment is always vital and effective tor learning. So , Students have close relation with home environment so that they feel easy to learn mathematics very easily. Familiar environment makes their mind enthusiasm in learning mathematics. So many loveable ideas are adjusted to learn the mathematics. Mathematics is favorable if the home environment is suitable to the students.

Home environment leads the career of students towards right direction or wrong direction having dependent on home environmental activities. Parent's attention on students career is so important to mathematic achievements. Home environment is related to provide education of mathematic without giving any warming and threatening which is beneficial impact to the mathematics achievement of students. Here environment is defines as the condition of family with different variable of basic and extra need such that social economic statuses of family, parent's education, parent spend time for their children and parent visiting

school. Therefore, environment directly affects the children behaviours and achievement.

Mathematics is concerned in tackling the daily obstacle to solve as tricky way. It produces different solution to make easy ideas in our daily life. Mathematics is a universal part of human culture. It is the process of calculating using number. It is the science of numbers and shapes which was originated along with the origin of the human civilization. It has been integral part of our life in this competitive world, (Jayanthi & Srinivasan, 2015). We need mathematics in each and every steps of our life. In the absence of mathematics, the world cannot reach on the principle of progress and prosperity as well as our life cannot move ahead smoothly. It has been utilized to solve the difficulties of different fields and purposes such as political purpose, economic developmental planning and other social events perceived from the early history of different civilization therefore it is very important to solve the various problems of different sectors.

Mathematic subject is very useful in modern and competitive world. Mathematics has occupied the most important place in the field of education, science, technology, engineering as a result it is known as the queen of all sciences, arts of all arts key and gateway of all sciences in mathematic achievement. Learning cannot take place in vacuum, it takes place in suitable and appropriate environment. The meaning of environment is the condition that controls behavior and development or achievement of somebody. Environment plays vital role in learning process. It is defined as the condition of family with different facilities and availability of basic and extra needs.

Learning can be defined as a modification of behaviour through experience. It is the permanent change in behaviour. Learning is not measurable but it can be change behaviour. Learning is a lifelong process. Learning is not measurable but it can be change behaviour learning is a lifelong process. Learning takes place through birth to death that enable the learners for gaining skill to solve daily problem his/her life. Gate defines learning is modification of behaviour through experience and training. Crow and crow define learning is the acquisition habits knowledge and attitude. Gange defines learning as a change in human behaviour. So above definitions say that learning is change of behaviour. It is the process of acquiring new knowledge and new responses. Learning does not take in place vacuum. Learning is the product of environment. Many factors affect learning such that, personal factor, mental factor, emotional factor, school environment, heredity, teacher role, home environment (Pandit, 2068).

There are many aspects that affect to the students with different mathematics achievement such as teacher personality, instructional materials, peer group, . individual differences, political changes, geographical structure, socio-economic status, home environment etc. Among all these aspects home environment is an important factor which affects the achievement in mathematics so that the home is the first school of learning for a child to forward their career from zero step. Parents are first teachers of child so that the knowledge given by parents should be very sensible and conscious for their child otherwise they are unable to make bright their career. Normally their schooling starts from home where a child learns how to adjust in the changing world and acquire knowledge.

Parents support to their children to adjust and teach the basic things at home. The home environment determines the personality and achievement of a child. If the home environment of a child is favorable, a child can achieve the goal easily. It directly affects the children's behavior and achievement. Home environment not only influences achievement but also affects the mental condition of a child. Therefore home environment to condition of home that changes the behaviors and develops to everybody.

Statement of Problem

This study is concerned with "Effect of home environment on mathematics achievement of seven grade students". The factor find out the relation between parent education, family incomes, and parent involvements on educational achievement of the students. It is said that the first school of the child is home and first teacher is parents. To talk about the educational achievement of the students parental education status which includes income, parent education level, students watch TV or play mobile, family size, homework checking, household workload of the parents plays very significant role.

Home environment is the most important factor which directly effects on the achievement in mathematics. Due to home environment, students cannot achieve their goal as much as they try to achieve. Due to home environment, students become mentally and psychologically weak as a result there no any desirable achievement on Mathematics. The researcher became interested by reading this fact and chose this topic for the study in order to find out the effect of Home Environment on Mathematics Achievement of Students at Lower Secondary Level.

Considering these issues, I will try to find out the factor affecting of home environment.

) Is the achievement of the student on mathematics affected by their home environment at grade seven ?

) How there is relation between home environment and mathematics achievement ?

Objective of Study

A research objective is a statement of intent used in quantitative research that specifics goal that the investigator plans to achieve in study. The study was intended to determine the following objectives :

⟩ To find out the effect of home environment on mathematics achievement of students at lower secondary level.

⟩ To determine the correlation between home environmental factors and mathematics achievements of students at lower secondary level.

Hypotheses of the Study

The hypothesis is the statement in quantitative research in which the investigator makes a prediction or a conjecture about the outcome of relationship among attributes and their characteristic.

Research hypothesis: There is significant different between mathematics achievements and home environment factor such as family size, family income, father education, mother education, student watch TV or play mobile, homework checking, where do live father and household work load.

Significance of the Study

Mathematics is more useful subject of human life. Home environment is important factor to decorate the life style of students in mathematic achievement. It is help to change mentally, physically, socially and emotionally of students in mathematic achievement. Home environment in mathematics is necessary tool in every society. As home environment is straightly connected with the achievements of students, the study was discover the effect of home environment on mathematic

achievement of the students.

This study was significant for the parents, students, trainers as well as all the people who are eager to know the achievement of the students in mathematics. Therefore, home environment has played significant role for the students mathematics achievement. Thus, the study is signification for the reason that it would help to identify the factor that affect the learning process. The following are the significant of this study.

) This study would helps identify how the home environment affects on mathematics achievements.

) This study would identify how the learning environment affects the achievement of students.

) This study can provide necessary information to create better home environment to improve the result on mathematics achievement.

Delimitation of Study

The following are the limitation of this study:

) This study was delimited to the students of lower secondary level (Grade VII).

) This study was delimited on five public school of Dangisharan Gaunpalika, Dang.

) This study was delimited only grade seven mathematics teacher as well as students and their parents.

Definition of Related Term

Some terms related to this research are defined as follows:

Achievement: Here achievement is defined in term of having scored in mathematic by students which is related to mathematic achievement.

Home Environment: In this study, home environment represent parent's education, parents income, family size, parents support to do homework, household workload and student play mobile or watch TV.

Father's Education: Considering the perceived importance of father's educational status, this variable has included in this study. A value of 1 has been assigned illiterate, 2 for literate and 3 for educated.

Mother's Education: Considering the perceived importance of father's educational status, this variable has included in this study. A value of 1 has been assigned illiterate, 2 for literate and 3 for educated.

Illiterate: In this category, those people are included who are unable to read and write.

Literate: In this category, those people are included who are able to read and write also acquiring the primary education.

Educated: In this category, those people are formal education higher than primary level.

Family Size: This variable also has been included in this study. A value of 1 has been coded for those students whose students whose family is small, 2 for middle and 3 for large.

Small Size: Family member less than or equal to four.

Middle Size : Five to seven family members.

Large Size: More than seven family members.

Parent's Income: This variable also has been included in this study. A value of 1 has been coded to those children whose parent income is low, 2 for middle income and 3 for those income was high.

High Income: The parent who earns money more than 1,10,000 per year.

Middle Income: The parent who earns between Rs.90,000 to Rs.1,10,000 per year.

Low Income: The parent who earns less than Rs.90,000 per year.

Homework checking: This variable also has been included in this study. A value 1 has been coded to parent's supporting to do homework, for 2 not supporting to do homework.

Household work load: This variable also has been included in this study. A value of 1 has been coded to students support parent's 1 hour, 2 has been coded to students support parent's 2 hours and 3 has been codes to students support parent's 3 hours.

Watch TV or play mobile: This variable also has been included in this study. A value of 1 has been coded to students play mobile or watch in 2 hours, 2 has been coded to students play mobile or watch TV 4 hours and 3 has been coded to students play mobile or watch TV.

Where do live parents: This variable also has been included in this study. A value of 1 has been coded to parent's live in national and 2 has been coded to parents live in international.

Chapter - II

REVIEW OF RELATED LITERATURE

Review of literature is an essential part of all the studies. A review of related literature is a source of further study of research task. It is a way to discover what other researches in the same area of the study has been explored. It takes the research task to be undertaken in a better perspective and is essential for guidance of research planning. It helps the researcher to know the work carried out in the area of his/her research paper.

The core purpose of review of literature is to find out what works have been done in the area of study being taken. It helps to broaden the concept regarding the research topic. The review of the related literature is generally performed under to heading empirical and theoretical literature.

Empirical Literature

The review of the empirical literatures concerns the systematic concise of scientific researches and true explorating their topics, the objective of the study is done by clear way, design and sample are concerned in the study, the reason why this study has to have organized, method of the study, data collection tools and methods of confirming their validity and reliability and key findings in the related field. In this regard the following are the related literature in this study.

Sharma (2011), conduct a study entitled "The Relationship of Home Environment and Mathematics Achievement of Dalit community at lower secondary level in Baglung and Parbat District". The main objectives of this study to find out the

correlation between the facilities provided at home and children's mathematics achievement to analyze the achievement of a student with her/ his parent's education expectation and to suggest for making Dalit better home environment. Researcher used both the descriptive and analytical design to conduct the study. The researcher had taken as the sample for the study 50 students from 50 different families and 5 different school of the Parbat district. This study found most of the parent's expected their children to get their SLC level education and it was found that a significant relationship between parental expectations and the student achievement in mathematics. The mathematics achievement of Dalit student was strongly associated with the variable of facilities at home and parental expectation and the mean score of the availability of the facilities at home was positively correlated with mathematical achievement of the children.

Pearl (2007), did the research entitled "household environment association with math and reading test score in Ghana". The researcher concluded that mathematics achievement of students of students were affected by various factors such as household, socio-economic status, family structure and physical environment which become main course in learning mathematics.

Pantha (2006), conducted a study on "Parental occupation and their children achievement in mathematics" in Kathmandu district. The main objective of this study is to point out the different parent occupation and their children achievement of the student. A researcher was use to survey design. The population of study was the students of grade seven and their parents of Kathmandu district. It was selected through random sampling method. Then, researcher find jobholder parents children

achievement significant higher than businessman's children and businessman's children achievement is higher than the farmer's children achievement.

Rawat (2011), studied on "Effect of Home Environment on students' Achievement in Mathematics at Secondary Level", he has researched about a case study on Kami Students in Sylyan district. In this study the researcher has used semi-structure, face to face interview with two mathematics teachers, five kami students, their parents and class room observation. This study is descriptive and qualitative in nature. The researcher found that effect of the various home environment factors such as parents' education, parents' occupation, social tradition, family size, poverty, and load of household work were the main causes of affecting kami students achievement in mathematics at secondary level. Therefore he concludes that family environment influences to students.

Dibyajyoti (2014), conduct a study entitles "The role of home environment and mathematics achievement for student of secondary school in Nagaon district, India". The main objective of this study is to point out the different variables in the home environment that determine the achievement of the student. A researcher was use to design of the study was descriptive method though to be appropriate to analyze the impact of attitude toward mathematics in the cortex of selected variables. The sample of this study consisted of 500 student selected from 20 school of Nagaon district. Random sampling method used to select the sample. A questionnaire was conduct to collect the data and researcher use to analyze the data using the method of SD, t-test, and karlpearson product. Researcher found this study a positive correlation of home environment with academic achievement. Parent

should also support their children in their endeavors and provide them with all the help possible. Positive home environment with positive attitude of parents and student are key factor for successful learning of mathematics. The paper concludes that congenial home environment is essential factor in molding that appetite of the student towards mathematics which influences their overall academic achievement in long run.

Sharma (2014), studied on the title "Effect of Family Environment on Mathematics Achievement" The major aims of this research were to compare the mathematics achievement of students of lower secondary with respect to their family environment. The population of study was the students of grade viii and their parents of Lalitpur District. And the total sample size of this study was 240. It was selected through random sampling method from four public and four private schools and achievement test paper and achievement test paper and questionnaire were two major tools for the collection of data in this research. The researcher used mean, analysis of variance test, standard deviation, correlation coefficient and multiple linear regression for the analysis of data. In conclusion of his study, student's achievement was straightly interrelated with family environment.

Pandey (2013), studied on the topic "Relationship of social and economic status on mathematics achievement of primary schools students". The major purpose of the study was to find the relation between socio-economic status and mathematics achievement of primary level students in Arghakhachi district. Achievement test paper was used as the tool to collect data. Altogether 113 students were selected from six schools of Arghakhachi district including 61 boys and 52 girls.

The collected data were analyzed using different statistical tools such as mean, standard deviation, correlation and multiple regression. He concludes that the students' achievement was straightly related to their social and economic status.

Melhunish (2010), did the research entitled, "Impact of home environment on child cognitive development". The researcher concluded that effect of various socio-demographic factors upon the cognitive outcomes were the effect of father education, household socio-economic status and household income. He also found that mother's education was strongly linked to children's cognitive development in the early years.

Sah (2000), conducted a study entitle "A Comparative Study of Achievement in Mathematics of lower secondary level student of different ethnic group". The objective of this study was to find the achievement difference of different ethnic group in Saptary district. The study was of descriptive survey types and achievement test paper was used as the tool. 150 student including Brahimin, Sah and Chaudhary of grade eight from different public school in saptary district was the sample population for the study. The content validity of the test was checked and approved by the mathematics educator of central department of education and mathematics teacher. Several descriptive statistical devices and inferential devices were used to analyze and interpret the collected data. The main conclusion of this research was the achievement of Brahmin student was higher than Sha and Chaudhary student and Sha students' achievement was higher than Chaudhary students.

From the review, there have been many researches an achievement study of home environmental factor affecting learning mathematics and causes that affect

mathematics achievement. Many researcher founded that there are many factor such as home environment, socio-economic background, teaching learning process, parent education and motivation are influence factor in learning mathematics. In Nepal some studies have been done to explore whether the achievement in mathematics is affected by different variable such as socio-economic background, gender, instructional material, teacher qualification and class size. Home environment is the most important factor affecting of mathematics achievement. The home environment is strongly related to the student performance in mathematics. So, this was the reason that I choose this topic i.e. "Effect of home environment on mathematics achievement" to conduct my research. The variable of this study are parent's education, parent's economic, family size and household work load which is differ from the other research.

Theoretical Literature

The researcher introduces the theoretical discussion, which is relevant for the interpretation of the findings of the study. There are various theories related to children's learning and development. For this study, Vygotsky's learning theory and cultural difference, discontinuity theory. Vygosthian theories have been used for the interpretation of the findings of the study they are described as follows:

Constructivism of Vygotkian Theory

According to Lev Vygotsky, cultural-historical theory of understanding development is emphasized on the role of culture in the development of higher mental functions, such as speech and reasoning the children. His theory is related to

sociocultural The theory focuses the important of society and culture for enhancing the understanding intentionally efficient manner by heartening them in difficult and meaningful activities. We will return to our introductory examples throughout this lesson to exemplify the principle of Vygotsky theory in our introduction, the father intentionally engaged with his child to help her understand how to fit the blocks into the designed holes, without this help she would have continued to be unsuccessful. But with the meaningful direction from her father, she was able to successfully get the blocks into the holes herself.

According to Piaget, learning is achieved through the mental, physical maturation and experience. In contrast Vygotsky observed that learning processes lead development of students. He had mentioned that learning is a necessary and universal aspect of the process of developing culturally organized and human psychological function Learning is achieved through social interaction and language. According to Vygotsky Initially child has two kinds of interpsychological and intrapsychological. Here interpsychological means the child has new knowledge through interaction with others and intrapsychological means the child has knowledge of his own inside and new knowledge which is mastered on an individual level.

The Zone of proximal development is central to Vygotsky's view on how leaning takes place. He had described this zone is the distance between the actual development level determined by independent problem solving and the level of potential development as determined by independent problem solving under adult guidance or in the collaboration with more capable peers. He mentioned that

learning occurred just above the student's current level of competence. The foundation of scaffolding is for potential development. The use of language and shared experience is essential to successfully implementing scaffolding as learning tool. Teachers are able to make the competence of students through the zone of proximal development. Scaffolding is the first step to build interest and engage the learner. If the learner is actively participating, the given task can be simplified by breaking it in to small subtask. Learners can imitate any task and they also internalize that task.

The social context promotes sustained achievement and understanding growth. They work together and construct the knowledae. Vvgotsky differentiated between two forms of speech: spoken and written. Spoken speech can be symbolized in writing by the progression form. The child's transition is from drawing things to drawing speech. The curriculum should provide many opportunities to apply previous skills, knowledge and experiences with authentic activities connected to real life environment since children learn much through interaction and curriculum.

MKO is to anyone who has a better understanding or a higher ability level than the learner with respect to particular task, process and concept. The MKO is normally thought of being teacher, coach and older adult and the MKO could be peers, a younger person and even computers. The MKO is that they must have knowledge about the topic being learned than the learning does. Teachers are able to make the competence of students through the zone of proximal development.

Cultural Difference and Discontinuity Theory

In the cultural discontinuity theory (Ogbu. 1982) concerns about the cultural difference and discontinuity theory. The difference and discontinuity make hindrance in the students' learning. He says that those children whose home culture is much similar to the culture of school can face easily with the system that can result better learning achievement. If the culture is not same of home and school, the progress of leaning is slow to understand so that the result is not better learning achievements. Ogbu focused learning not only the product of the culture and language minority Disadvantaged and dominant groups are able to know about knowledge through the curriculum and text book. He has identified the feature of cultures differences mainly of three types of minority groups, they are: autonomous, voluntary and involuntary.

Ogbu (1992) focused on two types of cultural difference, i.e. the primary cultural difference of voluntary minorities and the secondary culture difference of involuntary minorities. There are two groups in the society which are voluntary and involuntary. The voluntary groups get chance to come in the main stream of development and they have got the chance in the participation but involuntary groups are unable to get the chance in the mainstream of development and they are unable to involve in the participation. It is difficult to cross cultural boundaries in school compared to the voluntary minorities with the primary differences. He furthermore elaborated that primary cultural differences might create problems in interpersonal and inter-group relation as well as difficulties in academic work for several reasons.

Discontinuity also occurs in the areas of language, though and measurement. In Nepal, there are many school schools which develop through the western influence as a consequence of donor network, modernization and globalization process. Although the education is for helping for the welfare of nation, it has too many aspects in business policy. There is no doubt in disrupting the transmission of the tradition culture of people because the curricular of school is existed on the basis of previous culture's reflection. The result of such curricular is the positive outcome for the students and nation which is supposed to take in our society. In additional to this way/style of teaching /learning in school is also problematic because of its formal and unpredicted nature as it occurs only rigid ritualistic manner that does not ensure hearing of children. The language in the society does interaction which is good result to the students in learning the mathematic achievement. Interaction is the activities of social activities that make us maturation and we are able to handle to the nation and country. The interaction may be with person, friends or groups and teachers. He further explained that discontinuity occurs in language. "If there were unmatched language at home, schools culture and interaction may not take place.

Conceptual Framework of the Study

Conceptual framework was construct on the basis of home environmental

factors by affecting on mathematics achievement for this study. This study aims

to identify and analyze the Effect of home environment on mathematics

achievements at lower secondary level (Grade VII). With the help of above

literatures, theoretical understanding, researcher creates the indicators to find

out the factor affecting environment on mathematics achievements that are

environmental factors which effect directly on students mathematics

achievement, the conceptual framework as follows:

Independent Variables   Dependent Variable   Independent variables

Figure I: **Conceptual Framework**

On the basis of above mentioned conceptual framework independent

variable are family size, family income, mother education, father education, where

do live parent, household work load, students play mobile or watch TV and

homework checking. The tools was constructed such as questionnaire form and

mathematics achievement. By using the tools, the data was collected. Collected data

was analyzed on the basis of conceptual framework. The result of researcher was found out on the basis of conceptual framework. In sum, conceptual framework for this survey is designed in the above diagram on the basis of literature and theoretical understanding. On the basis of conceptual framework, to show the factor affecting of independent variable on mathematics achievement was analyzed.

Chapter - III

METHODS AND PROCEDURES

The chapter contains the methods and procedure to be done to achieve the objective of the study and to get the answer of the statement at problems. It describes the design of the plans and procedures of the study, which are to be carried out to achieve the objectives of the study. The major procedures in the study are described in this chapter as follows.

Design of the study

A research design is a plan, structure and strategy of investigation. So conceive as to obtain answer to research question or problem. The plan is the complete schema or programmed of the research. It include an outline of what the investigator was done form writing the hypothesis and their operation implication to final analysis of data (Kumar, 2011, p 95). The study was adopted the descriptive survey design and quantitative research. Descriptive survey design was selected because the study entailed asking a large number of people question (in form of the questionnaires) about their opinion and idea and even describe what the people say. This study also used descriptive survey design since the variables were not manipulated and there was an opportunity to explore and probe the respondents for information.

Population of the study

This study was undertaken for the purpose the mathematics achievement of students and analyzes the effect of home environment factors. So, the population of

the study consisted of the grade seven students in the academic year 2075 B.S. and

their parents of Danglisharan Gaupalika in dang district by using purposive sampling

method.

Sample and Sampling

According to Best and khan (2003) the ideal sample is that which is large

enough to serve as an adequate representation of population about which the

researcher wishes to generalize and small enough to be selected economically in

term of subject availability, expense in term of time, money and complexity of data

analysis. Sampling is the process of selecting a few (a sample) from a bigger group

(the sampling population) to become a basis for estimating or predicting a fact,

situation or outcome regarding the bigger group Kumar (2014). The study was

selected five schools of Dangisharan Gaunpalika. The sample of this study was

included 210 students. (See Appendix-D)

Data Collection Tools

This study used two types of tools was used to collect data they are

mathematics achievement test and questionnaires for parents were development to

collect the data for this study. The mathematics achievement test was designed and

conducted with seven grade student in Dang to assess the level of learning, while

parents survey questionnaires was developed to collect the data on student family

characteristics, their own characteristic, and their perception of parental

involvement in their study. The details of each instrument are explained below.

Mathematics Achievement Test

Mathematics achievement is the main tool for this study. This tool was design by researcher. For this study the researcher was constructed an achievement test paper with the helped of curriculum and textbook of grade seven mathematics. Mathematics achievement test was conducted the different areas of mathematics learning arithmetic's, algebra, geometry which is regarded as content domain of learning. The mathematics test was designed in line with the national curriculum. Altogether, 28 mathematics test item where 10 very short question, 11 short questions and 7 long questions were carried out 210 students for to find mathematics achievement of students. (Appendix-A)

Survey Questionnaires for Parent

The parents survey questionnaires consisted of eight sections. This questionnaires is a written list of questions, the answers to which are recorded by respondents. In a questionnaire respondents read the questions, interpret what is expected and the write down the answer (Kumar, 2011). Parent's questionnaire form was used as a tool for the collection of data in for this survey research. According to the guidance of research supervisor the researcher developed one set of the questionnaire form and to collect the information respondent parents regarding to the family size, family income, father education, mother education, household workload, student play mobile or watch TV, where do live parents, homework checking and presence of certain items at home.(Appendix- C)

Validity and Reliability of the Tool

The content validity of the questionnaire was accurate, its findings must be

reliable and valid. The issues of reliability and validity have been addressed

differently by different writers. According to Kvale (1996) reliability is connected with

the persistently of the research finding . According to Ying (1994:37) the aim of

reliability is to minimize errors and biases. According to Kvale (1996) validity refers

to the truthfulness and trustworthiness of findings. For the reliability of the test

paper the researcher carried out pilot test on 20 students of Bhanu secondary

school, dangisharan gaupalika dang . Before administering the test paper, the

researcher instructed the students how to respond the paper.

To determine the internal consistency of the achievement test i.e. to find the

reliability of the mathematics achievement test, correlation coefficient had tested.

To test the correlation coefficient split half method was applied . Split half method

had applied as the add and even question. After the pilot test the reliability

coefficient test had done where the value of 'r' was 0.92 (Appendix –B) .

Data Collection Procedure

Researcher visited to selected school and meet head teacher as well as

subject teacher and look the permission to collect the data. Researcher had used

two types of instrument or tools in this study, they are mathematics achievement

test and questionnaires form for parents. The tools for the study were

adiministered on a sample of 210 students from the school including in the sample.

Before administering the test, the researcher explained the answering procedure to

test. After the time duration of examination, the answer sheets were collected and

were scored by the researcher. The parents questionnaire forms were distributed to

student for delivered to the corresponding parents with the help of respondent

students.

Data Analysis and Interpretation Procedure

This study was intended to make detail of the factors that influence mathematics achievement of grade seven students. Data was analyzed using both descriptive and inferential statistics. Statistical tally system was used to generate frequency count from the responses to prepare of frequency distributions. The hypothesis was tested using Pearson correlation and multiple regressions. The multiple linear regression technique was also used to find the effect of different variable in mathematics achievement. The analytical design included regression equation pertaining to the effect of eight major variables. The mean, standard deviation, ANOVA test, t-test, standard deviation, correlation coefficient, coefficient variance and multiple linear regression comparison with mathematics achievement was used for the analysis of data. The mean was used to find the level of mathematics achievement of students with different home environmental factors and standard deviation to find the significance representation of mean. ANOVA and t-test was used to find out the significance difference of means score of home environment factors in mathematics . correlation coefficients were used to analyze the relation between different independent variables. And also correlation coefficient used for analysis relation all independent variables to dependent variables. Multiple linear regression was used to find the effect of independent variable on dependent variable. For the analysis of the collection data the researcher widely used computer program SPSS.

Chapter - IV

ANALYSIS AND INTERPRETATION OF DATA

The data for the study were collected from grade seven students and related parents survey questionnaires form the selected sample. The main focus of this study was to find the effect of home environment on mathematics achievement at grade seven. The collected data were tabulated and analyzed for the study of attainment of the objective.

The data were categorized into different home environment factors such as family income, family size, father education, mother education, student play mobile or watch TV, housework workload, where do live parent and homework checking. The information for this study was gathered by using questionnaire as the main research instrument. In this study, the researcher administered exam students achievement score in public school in Dang Gaunpalika are the main objectives of this study. The study adopted both descriptive survey designs. Simple random sampling was used to select the sample included in the study questionnaire was used as a data collection tool. Due to the quantitative inquiry, the researcher analyzed each data with the help of statistical measures. The collected data were analyzed using both descriptive and inferential statistical using statistical package for social scientist (SPSS).

Family Size

In this research the family size having upto 4 members is considered as small that of 5 to 7 is middle and 8 or more large size. The mean and standard deviation of the score obtained by student according to parent's family size are presented in the following table.

Table I: *Mean and Standard Deviation of Students Achievement by Family Size*

Group	Mean	S.D.	CV	N
Small	23.91	5.945	0.25	74
Middle	24.89	7.511	0.30	79
Large	25.81	7.972	0.30	57

The above table show that the mean score of students by family size where the mean of small, middle and large member are 23.91, 24.89 and 25.81 respectively. Therefore, the mean score of large family size children was higher than the mean score of middle family size and small family size. Students having large family size have good achievement in mathematics small family size and middle family size. The standard deviation of small, middle and large member are 5.945, 7.511 and 7.972 respectively. Therefore, the standard derivative score of student with small family size is slightly better than that the middle family size and large family size.

Table II: *F-test at Achievement According to Family Size*

Family size	Sum of square	df	Mean square	F	sig
Between groups	117.591	2	58.796	1.155	.317

Within groups	10539.190	207	50.914	

The above table shows that the calculate value F is 1.155 at the level of significant (0.05) and P value at 0.317. The critical value is greater than the level of significant. It indicated that there is no significant difference between the achievement of students having small, medium and large family size. This finding accepts the null hypothesis and rejects the alternative hypothesis.

Family Income

The family income is one of the concerns for student achievement as the educational instrument like copy. Pen and book are importance which are in part of economics. So the economic cries are also one of the main problems seen in the students in this research. The family income is categorize in to three sections as low income (90,000 per year), middle income (90,000 to 1,10,000 per year) and high income (more than 1,10,000 per year). The mean and standard deviation of the score obtained by student according to family income are presented in the following table.

Table III: *Mean and Standard Deviation of Students Achievement by Family Income*

Group	Mean	S.D.	C.V.	N
Low income	21.08	6.715	0.32	74
Middle income	24.31	5.726	0.24	75
Large income	29.89	6.219	0.21	61

The above table show that the mean score of students by family income the mean achievement scores of the students with low family income, middle family income and high family income are 21.08, 24.31 and 29.89 respectively. Therefore, the mean score of student with high income family is slightly higher than of low family income and middle family income. Students having high family income have good achievement in math than low and middle income. High family income impacts more in creating environment at home and the achievement is better.

The above table also shows that the standard deviation of students by family income the standard deviation scores of the with low family income, middle family income and high family income are 6.715, 5.726 and 6.219 respectively. Therefore, the standard score of student with middle income family is slightly better than that of high income family and low income family.

Table IV: *F-test at Achievement According to Family Income*

Family size	Sum of square	df	Mean square	F	sig
Between groups	2610.124	2	1309.562	33.726	.000
Within groups	8037.657	207	38.829		

The above table shows that the calculated value of F is 33.726 at the level of significant (0.05) and P value at 0.000. The significant value is less than the level of significant. So, the difference between mean score is significant. The significant difference shows that family income children marked of good achievement than other group. This finding rejects the null hypothesis and accepts the alternative hypothesis.

Father Education

The father education is categorized into three levels. Illiterate father are these who are unable to read and write as well as literate father show are able to read and write also acquiring the school primary education. The father who have formal education higher than primary level are educated. The mean and standard deviation of the scores of student according to father education providing is tabulated is following table.

Table V: *Mean and Standard Deviation of Students Achievement by Father Education*

Group	Mean	S.D.	C.V.	N
Illiterate	20.97	6.199	0.30	62
Literate	26.29	6.558	0.25	89
Educated	26.54	7.475	0.28	59

The above table show that the mean scores of students of illiterate, literate and educated father are 20.97,26.29 and 26.54 respectively. Therefore, the mean score of educated father's children are higher than the mean score of literate and illiterate father's children. It is also shows that the mean score of literature father's children are higher than illiterate father's children. It shows that the mathematics achievements of educated father's children are better than literate and illiterate father's children.

The above table shows that the standard deviation scores of students of illiterate, literate, and educated father are 6.199, 6.558 and 7.475 respectively.

Therefore, the standard derivation score of illiterate father children is slightly better than that of literate father children and educated father children.

Table VI: *F-test at Achievement According to Father Education*

Family size	Sum of square	df	Mean square	F	sig
Between groups	1287.798	2	643.898	14.226	.000
Within groups	9368.984	207	45.21		

The above table shows that the calculated value of F is 14.226 at the level of significance (0.05) and p value is 0.000. The significant value is less than the level of significant. So, the different between mean score is significant. The significant difference shows that father education children marked of good.

Mother Education

The mother education is categorized into three levels. Illiterate parents are those who are unable to read and write as well as literate parents who are able to read and write also acquiring the school primary education. The parents who have formal education higher than primary level are educated. The mean and standard deviation of the score of student according to mother education providing is tabulated is following table.

Table VII: *Mean and Standard Deviation of Students Achievement by Mother Education*

Group	Mean	S.D.	C.V.	N
Illiterate	19.47	4.955	0.25	74
Literate	25.12	5.613	0.22	91
Educated	32.87	4.746	0.14	45

The above table show that the mean score of students of illiterate, literate and educated mothers are 19.47, 25.12 and 32.87 respectively. Therefore, the mean score of educated mother's children are higher than the mean score of literate and illiterate mother's children. It is also shows that the mean score of literate mother's children is higher than illiterate mother children. It shows that the mathematics achievements of educated mother children are better than literate and literate mother's children.

The above table also shows that the standard deviation of students by mother's education the standard deviation scores of the with illiterate, literate and educated are 4.955, 5.613 and 4.746 respectively. Therefore, the standard deviation score of educated mother children is better than that of illiterate mother children and literate mother children.

Table VIII: *F-test at Achievement According to Mother's Education*

Family size	Sum of square	df	Mean square	F	sig
Between groups	5037.465	2	2518.732	92.783	0.000
Within groups	5613.316	207	27.14		

The above table shows that the calculated value of F is 92.783 at the level of significant (0.05) and P value at 0.000. The significant value is less than the level of significant. So, the difference between mean scores is significant. The significant difference shows that mother educated children marked of good achievement than other group. Thus, mother's education is required for high achievement and consistency of learning.

Student Play Mobile or Watch TV

In the research student play mobile or watch TV in home was categorized as 2 hours, 4 hours and 5 hours above every day. The mean and standard deviation of the score of student according to play mobile or watch TV providing is tabulated is following table.

Table IX: *Mean and Standard Deviation of Students Achievement by Student Play Mobile or Watch TV*

Group	Mean	S.D.	C.V.	N
2 hours	29.90	6.634	0.22	69
4 hours	23.55	5.801	0.25	84
5 hours	20.44	5.766	0.28	57

The above table shows that the mean score at students of 2 hours, 4 hours and 5 hours above play mobile or watch TV are 29.90, 27.55 and 20.44 respectively. Therefore, the mean score of 2 hours play mobile or watch TV children are higher than the mean score of 4 hours play mobile or watch TV children and 5 hours above play mobile or watch TV children. It is also shows that the mean score of 4 hours lay mobile or watch if children is higher than 5 hours play mobile or watch TV children. It shows that the mathematics achievement of 2 hours play mobile or watch TV children are better than 4 hours play mobile or watch TV and 5 hours above play mobile or watch TV.

Table X: *F-test at Achievement According to Student Play Mobile or Watch TV*

Family size	Sum of square	df	Mean square	F	sig
Between groups	3009.646	2	1504.823	40.734	.100
Within groups	7647.134	207	36.943		

The above table shows that the calculate value F is 40.734 at the level of significant (0.05) and P value at 0.000. The significant value is less than the level of significant. So the difference between mean score is significant. The significant difference shows that minimum 4 hours play mobile or watch TV children marked of good achievement than other groups. This finding rejects the null hypothesis and accepts the alternative hypothesis.

Support in the Household Work

In this research, the household work load is to be done by students at home every day has been categorized into three sections as one hour, two hours and three hours or more. The mean and standard deviation of the score of student according household workload are presented in the following table.

Table XI: *Mean and Standard Deviation of Students Achievement by Household Work*

Group	Mean	S.D.	C.V.	N
1 hour	22.75	7.249	0.32	68
2 hours	26.69	7.428	0.28	89
3 hours	24.23	5.663	0.23	53

The above table shows that the mean scores of according to the household work load time i.e. one hour, two hours and three or more than three hours are 20.75, 26.69 and 24.23 respectively. Therefore, the mean score of 2 hours household work children are higher than the mean score of 1 hour household workload children and 3 hours household workload children. It shows that the mathematics achievement of 2 hour household workload children are better.

Table XII: *F-test at Achievement According to House Work*

Family size	Sum of square	df	Mean square	F	sig
Between groups	5037.465	2	2518.732	92.783	0.000
Within groups	5619.316	207	27.146		

The above table shows that the calculated value of F is 92.783 at the level of significant (0.05) and P value at 0.000. The significant value is less than the level of significant. So the difference between mean score is significant. The significant difference shows that 2 hours household workload children marked of good achievement than other group. This finding reject the null hypothesis and accepts the alternative hypothesis.

Where do Live Parents

In the research where do live parents was categorizes as national and international. The mean and standard of the scores obtained by the students according to where do we parents are presented in following table.

Table XIII: *Mean and Standard Deviation of Students Achievement by*

   Where do Live Parents

Group	Mean	S.D.	C.V.	N	t-value	Sign
National	24.71	7.195	0.29	150	.268	.120
International	25.00	6.513	0.26	60		

The above table shows that the mean score of students of national and international are 24.71 and 25.00 respectively. Therefore, the mean score of international shows that the mathematics achievement of international children are better than national children. And, the above table shows that the standard deviation score of students of national and international are 7.397 and 6.315 respectively. Therefore, the standard deviation score of international children are better than the standard deviation score of national.

The above table also shows that the t-test indicated that the significant value = 0.000 > $\Im$ = 0.05 shows that the means score of the students of national and international is no significant different.

Homework Checking

In the research the parent homework checking every day was categorized as regular checking and irregular checking. The mean and standard deviation of the scores obtained by the students according to homework checking by parents are presented in following table.

Table XIV: *Mean and Standard Deviation of Students Achievement by Homework Checking*

Group	Mean	S.D.	C.V.	N	t-value	Sign
Regular checking	27.88	6.928	0.25	112	7.559	.000
Irregular checking	21.26	5.591	0.25	98		

The above table shows that the mean score of students of regular and irregular checking are 27.88 and 21.26 respectively. Therefore, the mean score of regular checking children are higher than the mean score of irregular checking children. It shows that the mathematics achievements of regular checking children are better than irregular children. And, the above table shows that the standard derivation score of students of regular checking and irregular checking are 6.928 and 5.591 respectively. Therefore, it shows that the standard deviation score of irregular checking children are better than the standard deviation score of regular checking children.

The above table also shows that the t-test indicated that the significant value = 0.000 < ℑ = 0.05 shows that the means score of the students of regular checking and irregular checking is significant different. The significant difference shows that the students get more exposure to study math help for better achievement.

Analyze the Correlation Relation between Home Environment Related Factors and Mathematics Achievement of Students

The correlation between mathematics achievement of students and home environment related variables such as family size, family income, father's education, mother's education, student play mobile or TV, household work load, where do live parents and homework checking are presented in the following table.

Table XV: *Correlation between Home Environment Factors and Mathematics Achievement of Students*

Independent Variables	Correlation coefficient with students achievement
Family size	0.105
Family income	0.489
Father's education	0.425
Mother's education	0.684
Student play mobile or watch TV	-0.520
Household work load	0.096
Where do live parents	0.019
Homework checking	-0.103

From the above table, it was found that the correlation between mother education and student's mathematics achievement is higher substantial (i.e. 0.684). Similarly, the family income and students mathematics achievement has a substantial correlation (i.e. 0.489) The correlation of father's education and student's mathematics achievement is moderate (i.e. 0.425). The correlation between family size and mathematics achievement has a moderate (0.103). The correlation between

household work load and student's mathematics achievement is moderate (i.e. 0.096). Whereas the correlation between where do live parents and student's mathematics achievement is low correlated (i.e. 0.019). The table also shows that there is negative relationship between students play mobile or watch TV and students mathematics achievement is

(i.e. -.520). Similarly, the homework checking and students mathematics achievement has negative relationship i.e. (-0.103).

The above table through the analysis that the mother education is high correlation with mathematics achievement of student. The mother education, family income and father's education have the substantial correlations so it can be understood that they have the significant contributions in the students mathematics achievement. Similarly, the family size has the substantial correlations so it can be understood that they have the significant contribution in the students mathematics achievements. But household workload and foreign has moderate correlation has low correlation. From this, it can be said the foreign parents has very less contribution on the student's mathematics achievement. The negative relationship found between students play mobile or watch TV and mathematics achievement; it mean the mathematics achievement seems high whose students play mobile or watch TV minimum hours. Similarly, the negative relationship found between homework checking and mathematics achievement; it mean the mathematics achievement seems high whose parent checks homework irregularly.

Inter Correlation of Home Environment Related Factors and Mathematics

Achievement of Student

The following table presents the inter correlation between mathematics achievement and their home environment related factors are independent variable.

Table XVI: *Inter Correlation of Home Environment Related Factors and*

Mathematics Achievement of Students

Independent Variables	M.A.	F.S.	F.I.	F.E.	M.E.	TV	H.W.	PF	H.C.
Mathematics achievement	1	.105	.489	.425	.684	-.520	.096	0.19	-.103
F.S.		1	.083	-.119	.07	-0.070	-.210	.065	.006
F.I.			1	.414	.549	-.353	.135	.207	-.280
F.E.				1	.291	-.393	.116	.118	.357
M.E.					1	-.522	.102	.004	.457
TV						1	-.211	-.117	.333
H.W.							1	.116	.158
WLP								1	.126
H.C.									1

The above table shows that the correlation between home environment related factors and mathematics achievement to analyze the inter-correlation between each and every independent variable. The mother's education seems substantially correlated with family size, father education and mother education. It

means the student whose mother's is educated their father also seems educated and have small family size and they check their homework regularly checking.

Then, also there is better correlation between family income and mother education. There is better correlation family income and father education. There is low correlation between family size and family income, where do live parent, the low correlation between students play mobile or watch TV and homework checks. There is low correlation between mother education and support in the household work load, parents foreign. But, there is negative correlation between family size and father education, students play mobile or watch TV. There is negative correlation between family income and father education, students play mobile or watch TV.

Regression Analysis between Dependent and Independent Variables

In this section the home environment related factors on mathematics achievement is analyzed where eight independent variables and one dependent variables were used in multiple linear regression model. The result of regression analysis and standardized regression coefficient of independent variable are shown in the table below.

Table XVII: *Analyze the Effect of Independent Variables Using Multiple Linear Regression*

Independent variables	Regression co-efficient (b)	Standardized co-efficient (s)1	Sig.	R	R^2	Adjusted R^2	Std. Errors
Constant	16.836			.758	.575	.558	4.247

F.S.	.792	.087	.074				
F.I.	.730	.082	.173				
F.E.	1.798	.155	.006				
M.E.	4.128	.429	.000				
TV	-1.191	-.129	.028				
HW	.445	.047	.353				
WLP	-.325	-.021	.673				
HC	-2.706	-.090	.001				

a) Dependent Variable: Mathematics Achievement

b) Prediction Variable (Constant): Family size, Family income, Mother education, Father education, Household work load, Student play mobile or watch TV, Where do live parents, Homework checking.

Multiple regressions are used to predict one variable on the basis of several other variables. It is also statistical approach for modeling the linear relationship between Independent variable and Dependent variable. Now Un-standardized Co-efficient indicates how much the Dependent variable varies with an Independent variable when all other independent variables are held constant. Standardize Co-efficient examines effects of Independent variable on a Dependent variable. R value can be considered as one of the measures of the quality of the prediction variable or level of predication. R^2 value can be considered as a proportion of variance in Dependent variables that can be data accurately. The above table illustrates the information of the result analyzed. Based on the test result on the elevation it shows that home environment factors are the significant factors that contribute to the prediction model of the mathematics achievement. The above

table shows an R- value (0.758) with adjusted R^2 (0.558) which shows that that only 55.8% effect was found in student's achievement by their home environment factor.

However, home environment related factors contribute significantly to the prediction model of mathematics achievement and other factors that might contribute to their achievement up to 44.2%. From the finding the prediction model can be written as the following multiple linear equation.

Dependent Variable (Y) = Constant + (Family size) x_1 + (Family income) x_2 + (Father education) x_3 + (Mother education) x_4 + (Play mobile or watch TV) x_5 + (Household work load) x_6 + (Where do live parents) x_7 + (Homework checking) x_8

$Y = 16.876 + 0.087x_1 + 0.082x_2 + .155x_3 + .429x_4 - .129x_5 + .047x_6 - .021x_7 - 0.090x_8$

The regression coefficient of mother education is 0.429 it means that 42.9% of student's achievement was affected by mother's education which is the highest, so it is most influential factor to increase mathematics achievement of the students. Mother education was found to be positively associated with mathematics. This concludes that the students of educated mother were found to be intellectual than others. Similarly, the regression coefficient of father education is 0.155, it means that, 15.5% of student's achievement was affected by father's education. Which was also found to be positively associated with mathematics achievement of the students. This means the mathematics achievement of the students increase with the increment in the father education also increase.

Similarly, the regression coefficient of family size is .087, it means that, 8.7% of students achievement was affected by family size. Which was also found to be positively associated with mathematics achievement of the students. This means the mathematics achievement of students increase with the increment of the family size. The regression coefficient of family income is 0.082, it mean that, 8.2% of students achievement was affected by family income. Which was also found to be positively associated with mathematics achievement of the students. The regression coefficient of household workload is 0.047, it mean that, 4.7% of students achievement was affected by household work load. Which was also found to be positively associated on their children mathematics achievement. This means the mathematics achievement of students increase with the increasement of the household work load.

But the regression coefficient of students play mobile or watch TV was -0.129, it means that, low percent of student's achievement was affected by play mobile or watch TV. Significance and Beta coefficient for students play mobile or watch TV show that, play mobile or watch TV does not affect more an achievement of students. Similarly, the regression coefficient of homework checking was-0.090, it means that, low percent of student's achievement was affected by homework checking. The regression coefficient of where do live parent was -0.021, it means that, low percent of student's achievement was affected by where do live parent. It shows that where do live parent is not affected significantly in mathematics achievement of student.

At last, 42.9% of students achievement was affected by mother's education, 15.5% of student's achievement was affected by father education, 8.7% of student's achievement was affected by family size, 8.2% of student's achievement was affected by family income and 4.2% of student's achievement was affected by household workload. Five factors which affected most in achievement are mother education, father education, family size and family income. The remaining factors such as play mobile or watch TV, homework checking and where do live parent has less affected mathematics achievement of students.

Chapter-V

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The first section of this chapter presents to summary of the research the second section present its findings the third section present to conclusions and the last section present recommendations base on the finding of the study. After analyzing and interpretation of the collected data according to design an attempt has been made to summarize and enlist the finding, providing some recommendations for pedagogical purpose.

Summary

This is a quantitative research related to effect of Home Environment on Mathematics Achievement on grade seven. The objectives of this research were to find out the effect of home environment on the mathematics achievement and to find out of correlation between home environment factors and mathematics achievements of students. The study was conducted based on survey design which is included in quantitative research approach for this study the researcher developed the achievement test paper with the help of prescribed curriculum, seven class examination paper and collaborating with mathematics teacher and administrating before the test in Dangisharan Gaunpalika, Dang. Bhanu secondary school was the item analysis of the test and for checking its reliability and validity to the papers. The mathematics achievement test and parent questionnaire form are main instrument used in the study to collect the data.

Selecting five public schools at Dangisharan Gaunpalika Dang by stratified random sampling method. The sample of the study included 210 students. Those data were obtained through the students mathematics' achievement test and their parent questionnaire form. The parents questionnaire form was developed to get detail information about the such as Family Size, Family Income, Mother Education, Father Education, Household Work Load, Student Play Mobile or TV, Where do Live Parent and Homework Checking.

For the data analysis of the study mean, standard deviation, t-test, ANOVA, correlation coefficient and multiple linear regression were used to analyze the data. The mean was used to find the lend of mathematics achievement and standard deviation used to find the variability of mean. ANOVA and t-test was used to find out the significance difference of means score and home environmental sectors in mathematics. Correlation coefficient were used to analyze the relation between different independent variables. And also correlation coefficient used for analysis relation all independent variables to depend variable. Multiple linear regression was used to find the effect of independent variable.

Findings

In this study, researcher has selected five public schools in Dangisharan of Dang district for the fulfillment objectives of this study. All together 210 students of grade seven were considered as the sample. Data was analyzed by standard multiple regression and correlation coefficient. After statistical analysis of the collected data the researcher product the following results as follows.

⟩ The mean achievement score of large family size children is higher than the mean achievement score of middle family size and small family size children. The S.D. score of small family size children is better significance of mean then the S.D. score of middle family size and large family size children.

⟩ The $|F| = 1.155$ with significant $= 0.3147 > \Im = 0.05$, it shows that the means score of the student of small, medium and large size is statistically no significant different.

⟩ The mean achievement score of high income family children is higher than the mean score of middle income family children and the mean achievement score of middle income family children is higher than the mean score of low income family children.

⟩ The $|F| = 33.726$ with significant $= 0.000 < \Im = 0.05$, it shows that the means score of the student of high, middle and low income family is statistically significant different.

⟩ The mean achievement score of educated father children is higher than the mean score of literate father children and the mean achievement score of literate father children is higher than the mean score of illiterate father children.

⟩ The $|F| = 23.015$ with significant $= 0.000 < \Im = 0.05$, it shows that the difference between mean score as statistically significant. The significant difference shows that educated father children is marked at good achievement.

⟩ The mean score of educated mother children is higher than the mean score of literate mother children and the mean achievement score of literate mother children is higher than the mean score of illiterate mother children.

⟩ The $|F| = 92.78$ with significant $= 0.000 < \Im = 0.05$, it shows that difference between mean score as statistically significant. The significant difference shows that educated mother children is better mathematics achievements.

⟩ The mean score of two hour play mobile or watch TV children is higher than the mean score of four hour play mobile or watch TV and the mean score of four hour play mobile or watch TV children is higher than the mean score of five hour above play mobile or watch TV children

⟩ The $|F| = 40.734$ and significant $= 0.000 < \Im = 0.05$, it shows that student minimum hour play mobile or watch TV than the student is better mathematics achievement.

⟩ The mean achievement score of two hour household workload children is higher than the mean score of three hour household workload children and the mean score of three hours household workload children is higher than the mean score of one hour household workload children.

⟩ The $|F| = 6.389$ and significant $= 0.002 < \Im = 0.05$, it shows the difference between mean scores as statistically significant.

⟩ The mean achievement score of national parents children is higher than the mean achievement core of international country parents children.

) The |F| =.268 and significant = .789 > ℑ = 0.05 shows that the mean score of the student of national live parents and international live parents is statistically no significant different.

) The mean achievement score of regular checking homework at home is higher than the mean achievement core of irregular checking homework at home.

) The |F| = 7.359 and significant = 0.002 < ℑ = 0.05, which shows that regular checking homework parents at home mathematics achievements is necessary to have better.

) There is higher correlation between mother's education and student's achievement is 0.684, correlation between family income and student's achievement is 0.489, correlation between father's education and student's achievement is 0.425, correlation between family size and student's achievement is 0.105, correlation between support in the household children and student's achievement is 0.19 and correlation between parent foreign and student's achievement is 0.096. Therefore, mother's education, family income, father education, family size, parent foreign and support in the household strongly interrelated with achievement of student.

) The correlation between play mobile or watch TV students and student's achievement is -0.520 which is in weak negative relationship. It means that, the student minimum time play mobile or watch TV students obtained better achievement than student from more than play mobile or watch TV student and the correlation between checking homework and student's achievement is

-0.103, it means the mathematical achievement seems high whose parent

checks homework irregularly.

) It is shown that the student's achievement has 42.9% affected by mother's

education, student's achievement has 15.5% affected by father's education.

) It is shown that the student's achievement has 8.7% affected by family size,

student's achievement has 8.2% affected family income and student's

achievement has 4.7% affected by parents household work load.

Conclusions

From the finding of the study the researcher made the conclusion that the

mother education is most contributing factor on their student than the other factor.

So mother education is strongly positive associated with mathematics achievement

of students. Also, the father education is most contributing factor on mathematics

achievement. It conclusion that the mother education and father education very

essential for increasing mathematics achievement of student. Also, the family

income is most contributing factors on mathematics achievement. The family size is

most contributing factors on mathematics achievement. Student play mobile or

watch TV is most negative contributing factor on mathematics achievement.

Therefore, student minimum hour play mobile or watch TV than most positive

mathematics achievement. The children of support in the household time provide

was found to be higher than that of less time provide support in the household

children mathematics achievement. The children homework by the parent's checking

whose parents regular homework checking to their a children was found to be higher

than that is irregular homework checking parent's children mathematics achievement. The children from educated mother had better mathematics achievement than from the literate and illiterate children. The family size, family income, mother education and father education were positively correlated with their children mathematics achievement. The support in the household work and where do live parents children were positively correlated with their children mathematics achievement. The play mobile or watch TV and homework checking were negative correlated with their children mathematics achievement. Similarly, form the regression analysis of the data, we can conclude that the mother education, father education, family income, family size and household work load are contribution factor on their student than the other factor.

Recommendations

After concluding the research, the investigation found some finding, there are several areas where the investigation would like suggest. Some recommendation and educations and educational implication for the implication for improvement in mathematics.

⟩ Similar study should be conducted at all level of school and samples can be selected from different districts.

⟩ This study was limited to the student of grade seven from five government school. Hence, the researcher cannot generalize the finding of this study go all grade and whole country.

⟩ Similar study will be appropriate for base school level to higher level.

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Appendix- A

कक्षा : ७ पूर्णाङ्क : ६०

विषय : गणित समय : १:४० घण्टा

तलका सबै प्रश्नहरु अनिवार्य छन् :

समूह 'क' [10×1=10]

१. दिइएका चित्रबाट CHF को एकान्तर कोण कुन हो ?

२. यदि A = {1, 2, 3, 6, 7} र B = {2, 4, 6, 8} भए A B निकाल ।

३. 5 को वर्ग संख्या निकाल ।

४. द्विआधार संख्या पद्धतिमा प्रयोग गरिने अंकहरु कुन कुन हुन् ?

५. $x \leq 2$ लाई संख्या रेखामा देखाऊ ।

६. रु. 50 को 10% ले कति रुपैया हुन्छ ?

७. यदि ब्याज सांवा (P) ब्याजदर (R) र समय (T) भए साँवा निकाल्ने सूत्र लेख ।

८. दिइएको बहुपदीयका डिग्री पत्ता लगाऊ : $3x^2 + 4xy + 5xy^2$

९. गुणन गर: 2a (2a+4b)

१०. मान निकाल : 4×4^2

खण्ड 'ख' [11×2=22]

११. कम्पास र रुलरको सहायताले 30^0 को कोण खिच ।

१२. दिइएको चित्रबाट x को निकाल ।

१३. एउटा आयतको लम्बाई 5cm र चौडाइ 4cm भए क्षेत्रफल र परिमिति निकाल ।

१४. 4321_5 लाई दशमलव पद्धतिमा लैजाऊ ।

१५. म.स. निकाल : 12, 15

१६. कुनै संख्याको ½ भाग 50 हुन्छ भने सो संख्या पत्ता लगाऊ ।

१७. रामले एक वर्षमा 120000 आम्दानी गर्दछ भने जस मध्येमा 20% खर्च गरेछ भने कति रम बचाउँछ ?

१८. 5kg सुन्तलाको चिनीको रु.200 पर्दछ भने 2kg सुन्तलाको मूल्य कति पर्छ ?

१९. गुणन गरः (p+q) (p-q)

२०. साँवा (P) = रु.6,000, समय (T) = 2 वर्ष र ब्याजदर (R) = 10% भए ब्याज निकाल ।

२१. हल गरः 3m = 2m+6

<p align="center">समूह 'ग'   [7×4=28]</p>

२२. यदि AB = 3cm, BC = 4cm र AC = 5cm भए ζABC को रचना गर ।

२३. यदि U = {1, 2,............10}, A = {1, 2, 3, 4, 9}, र B = {3, 6, 9} भए A   B निकाली भेन चित्रमा लेख ।

२४. एउटा टि.भि.लाई 1000 मा किनेर 20% नाफा गरी बेच्दा कतिमा बेच्नुपर्ला ?

२५. दिइएको तथ्याङ्कबाट अंकगणितीय मध्यक निकाल ।

x	10	20	30	40	50
f	2	3	4	3	2

२६. भाग गर : $(x^2 + 4x + 4) \div (x+2)$

२७. यदि $x - \dfrac{1}{x} = 7$ भए $x^2 + \dfrac{1}{x^2}$ को मान निकाल ।

२८. दिइएको निर्देशाङ्कलाई लेखाचित्रमा देखाऊ ।

A (1, 2), B (-2, 3), C (-4,1), D (-3,4)

Appendix - B

Reliability Coefficient Test of the Test

S.N.	Score of Odd Item (X)	Score of Even Item (X)	x^2	y^2	xy
1	24	22	576	484	528
2	16	18	256	324	288
3	12	18	144	324	216
4	26	24	676	576	624
5	16	14	256	196	224
6	20	22	400	484	440
7	22	24	484	576	528
8	25	20	625	400	500
9	22	24	484	576	528
10	28	18	784	324	504
11	26	24	676	576	624
12	25	26	625	676	650
13	12	11	144	121	132
14	71	13	121	169	143
15	15	14	225	196	210
16	12	13	144	169	156
17	26	26	676	676	676
18	14	16	196	256	224
19	12	14	144	196	168
20	30	30	900	900	900
Total	394	391	8536	8199	8263

Correlation coefficient (r_{xy}) = $\dfrac{N\phi xy\, Z\phi x.\phi y}{\sqrt{N\phi x^2\, Z(\phi x)^2}\,\sqrt{N\phi y^2\, Z(\phi y)^2}}$

$$X\dfrac{20\mid 8263\, Z\, 394\mid 391}{\sqrt{20\mid 8534\, Z\, 155236}\sqrt{20\mid 8198\, Z\, 152881}}$$

= 0.86

Reliability coefficient (r) = $\dfrac{2r_{xy}}{1+r_{xy}}$ = $\dfrac{2\times 0.86}{1+0.86}$ = 0.92

Appendix-C

अभिभावकको लागि प्रश्नावली

विद्यार्थीको नामः ....

अभिभाभावकको नाम : ....

कक्षा : ....विद्यालयको नामः......................................

ठेगाना : जिल्ला.....................गाउँपालिका.........................वडा नं..........

१. तपाईको परिवारमा कतिजना सदस्य हुनुहुन्छ ?

....

२. तपाईको परिवारमा विभिन्न स्रोतबाट आउने वार्षिक आम्दानी उल्लेख गर्नुहोस् ।

....

३. तपाईको बुबाको शैक्षिक योग्यता कति रहेको छ ? उल्लेख गर्नुहोस् ।

....

४. तपाईको आमाको शैक्षिक योग्यता कति रहेको छ ? उल्लेख गर्नुहोस् ।

....

५. तपाईको आफ्नो छोराछोरीले कति समय TV हेर्ने वा मोबाइल खेलाउने गर्दछन् ।
   (क) २ घण्टा ( ) (ख) ४ घण्टा ( ) (ग) ५ घण्टाभन्दा माथि ( )

६. तपाईलाई आफ्ना छोराछोरीले घरमा कति समय काममा सहयोग गर्दछन् ?
   (क) १ घण्टा ( ) (ख) २ घण्टा ( ) (ग) ३ घण्टाभन्दा माथि ( )

७. बुबा वा आमा मध्ये कुनै विदेशमा हुनुहुन्छ ?
   (क) स्वदेशमा ( ) (ख) विदेशमा ( )

८. छोराछोरीको गृहकार्य दैनिक हेर्नुहुन्छ की हेर्नुहुन्न ?
   (क) हेर्नुहुन्छ ( ) (ख) हेर्नुहुन्न ( )

Appendix - D

Raw Score

According family size

Small	Middle	Large
15,18,20,23,18,24,28,17, 28,18,19,32,15,17,23,25, 32,19,18,17,20,19,24,18, 15,15,17,19,23,18,25,28, 17,18,23,38,28,32,19,23, 25,31,28,18,23,25,20,19, 24,28,23,38,28,19,24,24, 38,19,25,31,23,25,28,38, 28,25,28,31,24,28,28,31, 32,28	12,18,21,26,35,18,21,17, 32,19,22,30,39,35,31,39, 17,23,35,18,17,19,21,23, 21,39,21,28,21,31,12,18, 22,26,19,17,35,12,21,23, 30,18,33,19,31,18,33,35, 19,22,21,30,18,21,22,26, 19,35,32,18,21,23,26,19, 21,23,32,21,32,39,19,30, 21,31,33,21,35,35,39	10,18,25,30,17,26,31,35, 15,25,27,17,25,31,10,25, 36,10,15,30,34,27,18,15, 18,23,18,26,27,31,35,27, 17,26,34,15,17,25,30,35, 10,15,26,33,27,30,35,33, 27,31,36,34,36,33,27,34, 36

According family income

Low	Middle	High
15,23,17,19,10,17,15,21, 30,12,21,12,27,18,23,15, 27,17,34,21,10,23,15,19, 28,10,21,30,17,19,15,23, 19,21,19,15,23,18,21,15, 27,18,30,12,17,23,17,19, 23,10,33,34,15,19,27,17, 21,28,12,17,23,33,15,28, 34,17,21,18,19,27,23,30,	18,24,21,25,32,18,19,27, 23,32,18,28,31,35,18,24, 19,20,25,18,27,19,18,20, 18,35,23,28,18,31,21,27, 28,32,18,31,21,31,18,28, 19,32,19,24,18,31,19,25, 18,27,21,23,18,18,32,20, 35,19,31,18,32,20,24,18, 28,21,25,31,18,35,23,19,	26,39,30,17,35,25,36,22, 26,35,22,26,23,25,31,38, 17,39,28,26,39,30,17,35, 28,35,26,30,36,25,35,26, 31,22,23,25,39,26,31,17, 28,26,25,38,33,35,25,30, 22,36,25,26,38,25,35,28, 38,31,33,35,39

| 34,23 | 32,32,31 | |

According father education

Illiterate	Literate	Educated
10,21,17,19,27,15,21,15, 17,28,18,19,10,21,19,27, 15,17,26,18,28,17,15,21, 30,17,10,15,21,19,17,30, 18,28,15,19,21,19,26,15, 21,31,17,19,10,33,18,26, 15,27,21,33,15,27,17,26, 19,28,30,21,30	18,25,21,31,19,23,18,24, 21,31,18,27,23,25,17,30, 23,28,18,17,31,19,28,18, 31,21,24,18,25,34,24,25, 18,23,23,33,32,38,12,33, 19,31,18,31,23,32,28,31, 18,31,34,17,39,30,38,23, 25,31,18,32,24,33,24,28, 18,25,38,25,28,19,30,39, 23,28,31,39,23,31,32,24, 27,23,32,31,32,34,25,33, 38	36,18,25,12,35,19,35,18, 35,19,26,18,25,28,17,35, 17,23,1,35,21,20,35,24,35, 18,26,19,18,18,35,20,27, 25,20,35,36,34,18,26,36, 18,30,32,35,27,20,26,28, 34,35,39,35,23,25,21,32, 36

According mother education

Illiterate	Literate	Educated
18,15,20,19,30,10,17,23, 18,25,12,19,12,18,25,15, 24,17,20,10,27,18,10,15, 23,17,19,12,27,18,30,15, 18,10,25,18,27,23,15,19, 19,20,12,19,18,23,15,18, 18,15,19,17,24,18,30,19, 23,19,15,23,18,20,18,27, 19,24,18,30,19,25,19,23, 23,24	18,25,17,31,21,27,19,33, 21,32,23,17,33,21,35,26, 18,31,25,28,17,26,18,28, 23,26,17,21,27,19,25,23, 33,33,17,32,21,28,18,31, 21,25,17,32,28,31,21,25, 33,17,26,21,28,18,31,25, 35,18,35,26,19,27,17,33, 18,26,17,28,19,31,25,33, 20,21,31,26,21,31,23,28, 21,26,21,27,21,35,25,28,	34,22,31,35,30,32,30,34, 39,28,36,31,28,35,32,39, 35,22,38,36,32,38,22,39, 34,35,30,28,36,31,38,35, 39,22,35,28,35,30,34,31, 38,32,36,35,39

	32,28,33	

According students play mobile or watch TV

2 hours	4 hours	5 hours
17,18,35,38,23,30,18,31, 43,31,22,32,18,35,28,38, 30,33,17,19,31,34,23,38, 35,22,32,28,35,42,30,38, 33,39,17,34,31,36,23,18, 32,24,31,22,35,31,17,34, 35,18,39,24,39,31,35,28, 30,36,32,22,33,23,36,34, 39,31,36,33,35	15,16,21,25,18,27,19,19, 23,17,26,18,23,15,33,17, 32,18,15,28,21,31,18,19, 27,18,28,19,25,17,23,26, 15,35,23,18,21,26,18,19, 33,21,20,15,31,23,17,27, 33,18,26,19,27,23,18,26, 23,28,17,31,21,32,18,35, 18,28,19,31,25,35,18,26, 35,19,21,32,18,23,21,33, 21,25,26,32	10,21,28,18,21,25,17,19, 27,10,20,17,12,25,17,27, 21,15,25,18,25,19,21,10, 19,12,18,19,15,20,17,18, 18,30,25,12,17,30,15,19, 18,28,19,21,30,18,25,19, 25,10,28,18,15,20,21,27, 18,25,19,20,30

According housework load

1 hours	2 hours	3 hours
32,10,19,15,30,17,21,12, 25,17,19,23,33,12,17,32, 15,25,27,10,18,21,25,35, 15,23,35,18,30,25,27,10, 19,21,25,12,17,23,27,15, 27,27,10,32,21,35,25,12, 21,30,15,17,33,19,30,18, 27,18,25,27,23,33,2527, 32,33,35	31,19,18,15,35,19,28,21, 22,17,30,19,31,39,15,38, 28,35,18,23,31,34,17,21, 20,22,33,19,23,31,15,36, 38,19,17,35,19,17,21,26, 31,18,30,34,20,19,33,22, 31,13,18,28,39,22,31,39, 19,31,19,31,21,26,34,19, 33,20,39,23,31,33,19,35,	17,25,28,18,23,21,32,36, 18,24,32,17,25,18,28,23, 21,28,18,24,36,24,36,37, 28,18,32,18,36,18,25,26, 28,17,25,28,18,28,24,32, 23,18,28,26,18,21,18,28, 36,18,26,21,23

	39,38	

According where do live parents

National	International
25,10,18,24,19,28,18,19,35,21,17,25,18, 12,38,21,32,15,21,23,10,17,19,28,13,35, 19,17,25,26,18,23,26,30,18,31,17,28,35, 17,27,32,15,20,30,25,28,17,15,20,26,30, 11,19,28,21,25,17,27,31,18,19,23,28,17, 28,18,26,30,18,12,23,31,34,15,19,28,21, 25,10,19,23,31,21,39,18,21,33,18,23,17, 19,27,31,18,31,31,35,12,20,31,18,20,26, 34,15,25,19,35,18,27,31,19,32,34,18,33, 19,39,23,35,30,32,18,31,25,23,19,30,21, 31,35,23,39,26,35,21,38,26,38,30,39,31, 26,34,30,33,39,38	17,36,18,23,15,22,36,17,23,15,23,25,33, 19,24,21,24,25,18,23,27,19,32,36,19,22, 28,35,18,23,19,32,33,33,18,35,24,25,23, 15,23,28,17,33,21,22,35,21,27,23,28,19, 25,21,28,22,32,35,24,17,36,15,27,17,33
According to homework checkingRegular	**Irregular**
35,12,25,34,19,30,33,20,31,19,28,35,21, 34,23,27,17,31,24,32,22,28,15,31,35,22, 30,19,28,30,21,24,12,27,28,19,31,35,20, 25,33,19,30,22,31,24,38,27,37,12,26,31, 34,21,31,25,39,19,38,23,30,36,20,31,21, 35,19,27,25,31,39,35,18,35,25,27,34,19, 30,38,23,30,39,39,35,20,33,22,25,31,21, 35,35,19,36,23,30,39,25,12,28,33,24,31, 35,36,39,35	23,10,25,17,19,23,15,27,18,26,17,18,17, 27,18,32,15,21,19,26,15,18,21,26,17,33, 18,28,10,19,32,18,25,15,23,28,17,32,19, 17,28,10,23,18,28,17,18,23,15,26,18,28, 17,26,15,33,18,21,27,17,19,15,23,21,33, 17,25,21,10,26,18,18,18,17,23,28,19,33, 18,25,17,18,26,28,18,27,18,21,21,23,18, 28,19,18,18