

Chapter I

INTRODUCTION

Background of the Study

The term "Mathematics" has been interpreted and explained in different way. Historically, it has been originated from an ancient Greek word 'Manthancian', which means to learn. In the past mathematics was considered as a process of learning and interpreting the natural phenomenon. Mathematics is an organized body of knowledge, in which each Mathematics holds the mirror up to civilization. In which each proposition follows a logical consequence of proved proposition or assumption. Such mathematical structure is characterized by undefined terms, assumptions and rules of logic.

Development of mathematical concepts is a major achievement of human civilization. Astrology, structural designs, voyages across unknown lands and oceans, measurement system, economic planning and transactions are some of the areas which need the use of developed mathematical concepts and reasoning. Developments in these fields had started in early period of history in china, India and Mediterranean. Modern endeavours at scientific investigations and technological advancements cannot be thought without mathematics. Mathematics may be considered a special kind of language developed to convey quantity, shape, position and their interrelationships. Its use is determined by rules of logic-the logic that emanates from the laws of nature. Mathematical concepts develop from experience, and intelligent interaction with, the environment. (CERID, January 1990)

Mathematics plays an important role in the development of human civilization. Nothing can be done without taking consideration of mathematical figures. The modern science and technology stands on the foundation of applied mathematics. In Nepal, mathematics has been assigned with a proper place ever since the Vedic

period. But formal teaching of mathematics started only after the establishment of Durbar High School in 1853 A.D. in Kathmandu. After 1951 A.D. Mathematics have been taught as a compulsory subject in schools. In 1971, the National Education System Plan (NESP) was introduced. In the NESP curriculum, 30% of total school hours were assigned for mathematics teaching at the primary level. The NESP adapted a policy to lay emphasis on mathematics Education. It states-

"Mathematics like language is a basic tool of communication. Daily transactions and communication involves the frequent use of mathematical concepts. Thus, it is quite natural that mathematics is given a very important place second to language in school Education." (Math Ed Forum Issue1, 2002)

Mathematics is a behavioural subject which is essential to everyday life. It is the base of all kind of scientific inventions and technological development. It is a man made science without which the world can not move. Human life without mathematics is impossible. The people who are illiterate also use mathematics in their daily life. So, mathematics is involved in every moment of human life. Daily communication involves the frequent use of mathematical concepts and skills. So, it is considered as the fundamental component of literacy.

Mathematics like language is basic tool of communication. It is essential for everyday life as well as for higher study. Without the knowledge of mathematics, it is very difficult for better understanding of other disciplines like economics, physics, and chemistry and so on. Accepting the need and implication of mathematical lives, Roger Bacon (1973) says,

"Mathematics is a gate and key of all sciences. Neglect of mathematics works injury to all knowledge. Since he/she who is ignorant of it can not know the others sciences or the things of the world."

Children are the beginner of each new generation. We cannot imagine harmonious society in future unless the children, at present, are provided with better fundamental facilities such as basic needs: food, clothes, shelter, fair social environment and parental care and love. These are the fundamental rights of each and every children living in this world. But it is unfortunate that in Nepal the large numbers of children are found to be engaged indifferent types work and deprived of its fundamental rights mentioned above (UNICEF, 1996).

Child worker or Child labour means “a person in the age of 5-14 employed for hire full time basis and includes a self employed child and a child assisting his/her parents in their occupation for two or more hours”. (CWIN, 1988 p.5).

According to the UN convention on the right of the child, a child 1989 means “Every human being below the age of 18 years unless under the law applicable to the child majority is attained earlier”. The term Child Labour is used for employment of children below a certain age, which is considered illegal by law and custom. The stipulated age varies from country to country and government to government. Child labour is a world phenomenon which is considered exploitative and inhumane by many international organizations.

According to Children Act and labour Act of Nepal (2048) the groups of under the age of 16 years old person are known as children. Below the age of 14 years children are strictly prohibited to work as labour. But the children of the age between 14-16 years can work , only when they bet facilities like less working hour, i.e. 6 hours per day not more than 36 hours per week. In this way if they work for 3 hours continuously they must get rest half an hour. Child labour is not any a problem of Nepal but it is universal and one of the serious problems of the world (Nepal act 2048).

Internationally domestic child labours is defined as children working in employer's house with or without wage .Domestic Child Labour (DCL) are basically employed to perform domestic chores such as washing dishes cooking, cleaning the house, looking after young children and any other household related activities. The domestic child labourer may consider as a helping hand in the various activities.

Statement of the Problem

Participation in mathematics education is an important dimension to access the development of a society. Mathematics is the primary root of educational system. Education develops the human resources which are interpreted as a process of increasing the knowledge, skill and capabilities of all people in the country. In general, it can be seen that mathematics is essential for one's daily works; official works, household work and field works. In fact, in every working field people are using mathematical knowledge and skills to lead their life. But in the context of Nepal, all people do not get the chance of education and the educational achievement in general and mathematical achievement in particular, is poor not good due to problem like social, economical, cultural barriers, some of them acquire knowledge from own construction, they build mental scheme by ethno- mathematic process, their culture and custom may lead to their intuition and indirectly affects to them for learning mathematics. Students feel mathematics is a difficult subject. So, the researcher intends to study "Factors Affecting in Learning Mathematics (A Case Study of Domestic Child Labour (DCL) Students)." The following were the research questions for the study.

- Does school providing good learning environment for DCL students?
- How the influencing factors that affect the learning of DCL students in mathematics?

Objectives of the Study

Based on the research questions mentioned above, this study aimed to fulfil the following objectives:

- To identify the learning environment of DCL students in school.
- To find out the major factors that affect in learning mathematics of DCL students.

Significance of the Study

The goal of teaching mathematics is to provide an essential tool for the further study and everyday life of students. All sciences like physics, biology, social science, management and technology are very much dependent on the mathematics and the use of mathematics in everyday life is increasing. Therefore, almost every child throughout the world at the age group 5-16 years are expected to the study of mathematics at school education with value of mathematics in every education system. Mathematics has been chosen as the subject of interest, this is considered as a gateway for getting job in the market and opportunities to the study in multiple valued subjects such as science and technology.

In the modern world, mathematics is being increasingly used in sciences, technology, social sciences, Management, Education etc. Hence it has been considered as a queen and servant of all sciences. The mathematics teacher can teach mathematics by applying modern technical devices and more effective methods. Even then the performance of students is poor in mathematics. Various researches have been conducted to find out variables that are responsible to influence the achievement in mathematics. Similarly, a number of researches have been carried out to find the socio-economic conditions of DCL but no such study has been made to find out the relationship between children's learning and the socio-cultural factors that may

provide an understanding for children's schooling and learning mathematics as well. So this study would have a significant meaning in studying the "Factors Affecting in learning Mathematics (A case Study of Domestic Child Labour Student)". However, no such study has been made yet in the area of mathematics education, so this research would try to investigate the learning difficulties in mathematics of DCL students. In such argument, the researcher was eagerous to know the influence of mathematics on DCL and tried to identify the factors affecting mathematics learning of DCL children. The study would have the following significance:

- The study would be important to identify the learning environment affects the learning of DCL students in education sector.
- The study would be useful for NGOs, INGOs and other related organizations.

Delimitations of the Study

Any study cannot overcome all the fields. Each of them has some limitations. So this study have following limitations.

- This study was concerned with the factors that affect mathematics learning of DCL at primary level.
- This study was limited to SGHSS Kathmandu district.
- The data of this study was generated through the interview, and observation form with their school records.

Definition of Related Terms.

Domestic Child Labour: Domestic child labours is defined as children working in employer's house with or without wage Domestic Child Labour are basically employed to perform domestic chores such as washing dishes cooking, cleaning the

house, looking after young children and any other household related activities. The domestic child labourer may consider as a helping hand in the various activities.

Chapter II

REVIEW OF RELATED LITERATURE

A review of related literature provides the knowledge of what has been established, known or studied and what has been attempted yet. In other words, review of literature is necessarily required to find out gap in research in further study. The purpose of review of literature is expanding upon to the context and background of the research. Different researches as well as research institutions have done several researches about different children. Some of researches have been done in the field of mathematics also. Some of the related literatures have been reviewed in this chapter.

Ghimire (1997) did a study on “A study on factors affecting teaching/learning mathematics at primary level”. The purpose of the study was to find out the factors affecting in learning of mathematics in secondary level by sex-wise and rural/urban location of schools in terms of the following school environment, family background, motivational factors/ physical facilities, interest of the learners and instructional materials. 90 students were taken as sample. To analyze the data, t-test was used. He found that environment affects the students learning of rural areas and girls learning affected more than that of boys.

Thapa (2001) did a research on, “Learning strategy for out of school children of Dalit community”. The objectives of the research was to find out the learning skill and ways of learning in daily life of untouchable children, to examine the skill which are helping them for the better life in the future and suggest the ways of establishing linkage. Observation form was the main procedure of data collection. There were contents which were not contextualized and there was the marked difference between society and classroom learning. In out of school classes, more emphasis was placed on theoretical aspect and less stress on practical matters. Even in the training

materials, biological approaches were not included. The study draws some implication for the improvement of teaching and learning method of the out of school programme curriculum. It also comes up with the implication that out of school program materials must be related to everyday life of the children and their ways of learning.

Upadhyay (2001) on his Ph.D. thesis entitled “Effect of constructivism on mathematics achievement of grade V students in Nepal”. The statements of the study were: Does constructivism encourage the habit of self-learning and self-correction? Does constructivism approach produce better result than conventional approach in students’ achievement in terms of immediate learning, retention and his gain? Can constructivism in mathematics be applied in Nepalese school situation? What could be the problem that might arise while applying constructivism? The research was the experimental with three key words- action, reflection and scaffolding. The purpose of the study was to adopt and advocate constructivism in mathematics teaching in Nepalese classroom. The research developed the teaching episodes and reliability was established.

Rahman (2003) conducted a research entitled “A study of achievement in mathematics of eight grade students of different ethnic groups of Nepal”. The aims to compare the mathematics achievement of grade eight students of different ethnic groups. The sample was selected by random sampling method. To analyse the data mean, t-test, F-test, pearsons coefficient of correlation were used. Tamang, Magar, Tharu and Sarki found out the difference in achievement of different ethnic groups in different domains: knowledge, comprehension, skills and application.

Baral (2004) did a research on “A case study of street children for learning mathematics.” The main objective of this study was to investigate how the street children learned mathematical skills. Different tools such as case study, observation

and interview were applied to investigate their learning of mathematics skills and Vygotsky's social constructivism theory was applied to analyse the data. He concludes that street children of the Kathmandu valley had basic mathematical knowledge. The level of their skill was different according to the work where they involved in.

Khadka (2006) did a research entitled "The factor influencing the attitudes toward learning mathematics to the children of Ex- Kamaiyas". The main objective of this study was to find out the influencing factors in learning mathematics to the children of ex-kamaiyas. Different tools such as case study, observation and interview were applied to investigate the affecting factors. This study concluded that behavioural attitudinal study are the influencing factors toward learning mathematics and the affect of parental enrollment and supervision in mathematics classroom.

Gyawali (2007) studied on "Mathematics achievement of grade V students from Yadav and Chamar community". The purpose of the study was to compare the mathematics achievement of yadav and Chamar students. 100 students with 70 boys and 30 girls were taken as sample. The researcher used achievement test of Yadav and Chamar students with the achievement of 21.82 and 25.04 respectively. The mean of Yadav student was less than the mean of Chamar student.

Bastola (2008) studied on "A study on the factor affecting the achievement of Dalit students in Kaski district." The purpose of the study was to describe the learning environment for Dalit students in the school and find the relationship between the teacher and Dalit students in the class. To identify the major factors those affect the mathematics achievement of Dalit students. He took 3 students, 3 parents and 3 teachers as sample. He used observation and interview schedule as tools. He found

that poverty, household work load, expensive education, motivation, health of students are the major factor that affecting the achievement of the students.

Lammichhane (2012) did dissertation entitled “Mathematical concepts used by out-of – school children”. It is a descriptive study with the aim to find out mathematical concept used by out-of-school children from the Tharu community. Her research concluded that due to their traditional culture, the out-of- school children learnt different mathematical concepts during their household activities.

Shahi (2014) conducted a research entitled “Factors Affecting Achievement of Dalit students in Mathematics (A Case Study of Doti district)” with objectives to find the learning environment and affecting factors in mathematics achievement of Dalit students. It is a qualitative research in which he has used case study, observation and interview as data collection tools and took six Dalit students and their parents and six peer groups as sample for the study. He has found that weak economic condition, social belief, tradition of the society, psychological factor, health problem, distance of school, family environment of the parents were the factors affecting the achievement of Dalit students.

Theoretical Literature

There are various theories related to children’s learning and development. They also invented difference learning models. Some of learning models by different psychologists are given below:

- Bandura's Model (1986): Social Learning Theory that states that learning takes place through observing others in social environment.
- Dienes' Model (1960): He advocates that mathematical concepts are learned in progressive six stages.

- Hoffer's Model (1982): He believes that students' achievements depend upon six factors: Student's Background, Peers Background, Students behavior, Peer behavior, School type and school policies.
- Piaget's Model (1950): Students' age and environmental factor can be recognized to be a dominant factor in student learning.
- Skinner's Model (1940): Human learning depends primarily on the observable behaviours of teacher and students.
- Vygotsky's Social Development Model (1950): The internalization of student's knowledge could be better achieved when students were guided by a good analytic question posed by the more advance partner in the role of teacher.

In this study, the researcher use following learning model as theoretical model:

Constructivism

The constructivism theory is based on observation and scientific study about how people learn. People construct their own understanding and knowledge, through experiencing things and reflecting on those experiences. The learner is active creator of his/ her knowledge. In general case, it usually means encouraging students to use active techniques (experiment problem solving) to create more knowledge and then to reflect and talk about where they are doing and had their understanding is changing. Students in the constructivist classroom ideally become “expert learner” by questioning themselves. This flues teacher helps students to construct knowledge by providing tools such as problem solving and inquiry based learning activities with which students formulate and test their ideas, drew conclusions and inferences, and pool and convey their knowledge in a collaborative learning environment. Constructivism transforms the students from a passive receipting of information to

active participant in learning process. Constructivism students on its three axioms that are as follows:

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

From above axiom, Upadhyay (2001) took three terms action, reflection and scaffolding to describe broad aspects of constructivism, psychological aspects, Philosophical aspect. Piaget stresses on the key word 'action' through which he advocates that knowledge is gained. He said that essential way of knowledge is not directly through our sense, but primarily through our action. Philosophical aspect of constructivism is also called radical constructivism, which is led by Glasserfeld who advocates that knowledge is personal, subjective and unique. And anthropology aspect is termed as social constructivism headed by Vygotsky, who states that knowledge is socially constructed.

Vygotskian Constructivism Theory

Constructivism is the new theory. Vygotsky has developed "Socio-cultural theory" and he believed that children are active seeker of knowledge. In this theory, rich, social and cultural context deeply affect children's cognition knowledge is constructed in social situation of negotiations rather than being the reflection of the objective reality, which is known as social constructivism. In social constructivism theory, each human being makes sense of the world in a unique way. According to Vygotsky, the children's development cannot be understood by studying the individual that it needs to examine the external world. Child can capture every kinds of information which is needed from the context to construct the knowledge. The role

of experienced person is to assist the child providing the structure and questions that provide the assembly of the information and organizations.

According to social constructivist (Vygotsky), knowledge is constructed in two ways in the social situation. Firstly, social interactions influence on the nature of knowledge that is constructed and process of individual use to construct that knowledge. Thus the constructions are socially centred and involved process of understanding, constructing meaning and making sense, children construction of knowledge is not from only individual but from also the context and the interaction with more knowledgeable others. Here the knowledge constructed by child is not through child's capacity only. The child needs some mediator like parents, teachers, adults or peer to uplift his knowledge from the knowledge s/he has. These mediators are the members of society and cultured context influence what that member thinks about how that learns to think and acquire information any why children learn the particular form of knowledge. Thus Vygotsky proposes that child's knowledge could be predicted if we could understand a social context. Thus Vygotsky's child is a social, outer culturally determined child.

Cultural Difference and Discontinuity Theory

Ogbu (2000) delineates about the cultural difference and discontinuity theory that deals with the problems in children's learning caused by the difference and discontinuity between the culture of home and school. Those children, whose home cultures are much similar to the cultures of school, can cope easily with the system that may result better achievement. Similarly, the children with unmatched or dissimilar home cultures with school cultures and they do not have enough attention in their learning and does not get much recognition of their cultures and they have to work hard achieving learning outcomes compared to the children with good matched.

And he emphasizes learning not only as the product of the culture and language differences but other the nature of the relationship between the culture and language of minority/ disadvantaged and dominated groups. The dominant groups are controlled by the school system through implementing their curriculum, and using their language as the only means of instruction.

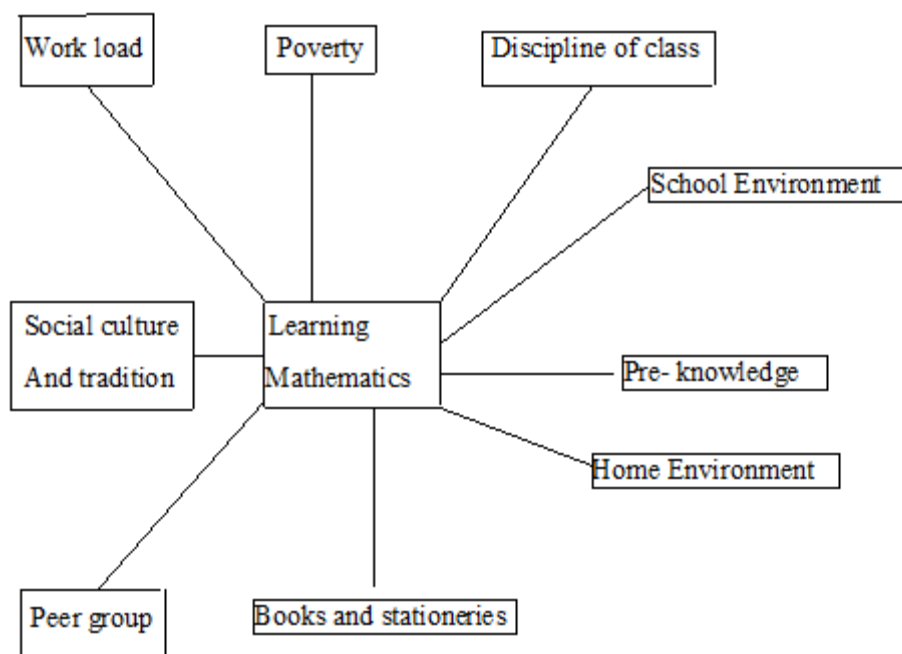
According to difference critics they believes that students achievements depends upon six factors: Students background, peers background, students behaviour, peer behaviour, Schools types and school polices And other believes that the internalization of students knowledge could be better achieved when students were guided by a good analytic questions posed by the more advance partner in the role of teacher.

In the conceptual framework of the study we can find that students of DCL can not have good performance in the study because of poverty, work load, books and stationeries when they set for the study they find difficult to study mathematics as it needs to be practices once and again. They lack the pre knowledge of subject matter because they are from poor family background and home environment also cannot stand positive for them. They cannot find good help and supports from the family members because others member of the family are also uneducated. The class discipline is mainly maintained for the high-class people which turn out to be difficult to follow for the DCL students. Many researcher also have state that above mention factors affect the learning activities for DCL children.

Conceptual Frame Work of the Study

This is the case study about the “Factor Affecting in Learning Mathematics (A case study of DCL students).” which is based on the theory of social constructivism that assumes more collaboration of learning environment which proposed the

effective learning procedure to develop new knowledge for DCL students. The conceptual framework formed by the researcher for this study is as follows:



(Sources: Fig. Child labour in home based sector, 2010).

There are many factors that affect the learning mathematics to the DCL students. The heavy work load badly affecting to learning mathematics as well as poverty and discipling of class also the factors which disturbs for learning mathematics. School learning environment and social culture and tradition also playing vital role to affect the learning mathematics for DCL students. If the home environment is not favorable then the students can not move fast on mathematics. as will as peer group and stationeries also affect them.

Chapter III

METHODS AND PROCEDURES

This chapter included the procedure of the study which would carry out the achievement of the objectives of the study and to get answers of the statement of the problem. It described the design of the study, selection of case respondents, tools, data collection procedure and data analysis procedures.

This was a case study about factors that affect mathematics learning of DCL students. So, qualitative technique was used to analyse data. According to Patton (1990), qualitative research accepts that people know themselves Best and Kahn describe, interpret and talk about their own environment.

Qualitative research involves the studies and collection of a variety of empirical materials, case study, and personal experience. Life history, interview, observation, instructional and visual texts that describe routine and problematic moments and meaning in individual's lives are its tools for data collection. Qualitative research is a form of inquiry that explores phenomena in their natural settings and uses multi-methods to interpret, understand, explain and bring meaning to them. These data and information are collected through using tools such as observation, interviews .The rationale behind the discussion of DCL is to find out their difficulties of learning mathematics.

Qualitative research studies things in their natural settings attempting to make sense or interpret phenomena in terms of the meaning people bring to them. Qualitative research involves the studies and collection of a variety of empirical materials.

Design of the Study

This study is based on case study research design that especially concerns with exploring meaning and the way that people understand things. So, this study is qualitative in nature. Qualitative research can be regarded as 'naturalistic inquiry' in a sense that it is concerned in natural settings by trying to avoid any intentional manipulation and distortion of the environment of the informants by researcher. This study also investigates real-world behaviour as it occurs naturally whether it is at home or field of classroom or playground or in institution (Tames & Perry).

Sample of the Study

This is qualitative inquiry, so the sample size in this study is not fixed. According to Anderson, there are no rules for sample size in qualitative inquiry (Anderson et. al 2001, p.123). Patton (1990) has mentioned that main difference between qualitative and quantitative research lie on the sampling approaches. Qualitative inquiry typically focus in depth relatively small samples, even single case (n=1) can be selected purposefully. So, the sample size of this inquiry depends upon the researcher what s/he wants to know, what is the purpose of inquiry, what can be the credibility of the study and what can be done with available time and resources. So, the researcher's respondents of the case study were DCL students, their guardians and mathematics teacher. As one of the non- probability sampling, the researcher used 'purposive sampling' to select relevant informants that can be done with a specific purpose in mind, and that purpose reflects the particular qualities of people or events chosen and their relevance to the topic. Four DCL students (2 boys and 2 girls) from grade 5 and their guardians and four peer groups were chosen for the study.

Tools for Data Collection

One of the most important parts of the study is data collection. Every aspect of the study can be analysed and studied on the basis of data collection techniques. The outcomes and the validity of the study depend on the techniques of data collection. There are many tools for the qualitative research to get the information from the people about their experiences, ideas and believes. Data were collected from case school, written documents and previous research. But the primary data were collected from target students, guardians and teachers through interview and observation. Interview schedule, class observation form for respondents was the tools for this study. The following techniques were applied in this study.

Observation Form

In the way of collecting primary data, the observation method is commonly used. It has become a scientific tool and the method of data collection for the research. It is systematically planned and recorded and is subjected to check on validity and reliability. Under this method, the information is sought by the way investigators own direct observations without asking from respondent. The classroom observation form was developed by the researcher with the involvement of experts. Students' regularity, teachers behaviour towards DCL students, relationship between teacher and DCL students, DCL and non-DCL students performance, learning behaviour of DCL students, teachers' guidance and motivation to DCL students were included in the observation form.

Interview Schedule

Interview is also the method which is the most commonly used to collect Primary data. It is the means to express internal thought, interest, concept and

thinking of a person. It is a tool to find out experience, internal thought of person according to their acting, looking and facial expression.

The interview schedule was developed in semi-structured form. It was conducted among 4 students and their guardians and a mathematics teacher with a help of interview schedule.

Data Collection Procedure

The researcher visited the area of the study to collect information. Researcher informed them that after observing their class work and home work and find the cause of their difficulty on mathematics. And researcher discussed/ interviewed certain questions related to their difficulty on learning mathematics and personal background. The researcher studied the selected DCL students and their behaviour during 15 days. In this time the researcher observed them carefully how they learn and what difficulty they feel on learning mathematics. For this study purpose, the researcher prepared the individual student record of all students studying at grade V and analyze those records best on the theoretical model prepared by the behaviour of peer group towards DCL students was also observed in these days. Also the structured observation form was fill up by the researcher on observed classes.

The researcher conducted the interview among the respondent students, respective guardians, a peer group and selected teacher to find out the learning environment provided to DCL students.

Analysis and Interpretation of Data

The researcher used the data collected from the field by observation and interview. The collected data was categorized according to the category of the respondents and their different theme was given in the text of interview and observation notes. The similar theme version of the respondents was collected

together and explained in their perspective. To maintain the validity and reliability of the result of the study, triangulation was adopted. The data analysed would be interpreted by using the frame work that the researcher has developed in literature review.

Chapter IV

ANALYSIS AND INTERPRETATION OF DATA

In this Chapter the collected information from the case students were interpreted. The data were interpreted and analysed in the following headings:

- Introduction to case respondent,
- Classroom observation of respondent children in the case school,
- View of respondent students,
- Math teacher's view towards DCL students,
- Guardians' views towards DCL students,
- Non DCL students' views towards DCL students,
- Factors affecting learning of DCL students in mathematics,

Demography of Teaching Staff

Teachers, students and non-teaching staffs lie in school family to maintain the good school environment. For the good learning of the students, equal participation of teachers, students and non-teaching staffs is needed. So, they have equal responsibility to make students success on their learning. The demography of teaching and non teaching staff of the case school is shown in the Appendix V.

From the demography given in the Appendix V, it seems that most of teaches are well qualified, experienced and trained. Non teaching staffs are also sufficient at school. So, all the staff should go together to get good progress of the school and make students success in learning.

Introduction to Case Respondent

Shree Siddhi Ganesh Higher Secondary School Kathmandu where most of students are employed at home to work. They worked as domestic child labour. They do household works and come to study at school. They hardly get good environment

to study. Most of them are victim of both physical and mental tortures. To find the factors affecting in learning mathematics at primary level, the following respondents were taken as sample of the study.

Sunita Limbu (Changed Name)

Sunita Limbu (Changed Name) was from Ramechhap. She was 12 years old. She had 8 members in her family with one elder brother, one younger brother, one elder sister, two younger sisters and parents. Her parents possessed home and land in her village. They worked as a day labour to earn their living which she thought was not sufficient for her family. Her father could read and write but mother was illiterate. As per the suggestion of her father she left the village in the hope of study and brought in city by her father and she is staying in one of the houses in Nayabazar. Earlier she joined school in her village where she passed grade III. Now she is studying at Shree Siddhi Ganesh Higher Secondary School in grade V for which the employer provides financial support.

Having employed here in Nayabazar, she has to do household works like washing dishes and clothes, sweeping house, taking care of the owner's children, going for shopping, cooking and other small works at home. She has to work 10.5 hrs a day. She gets little money at feasts and festivals and other religious occasions which is not sufficient for her to fulfil her daily expenses at home and school. She sends some money which she keeps as saving to her parents. She usually goes to bed after 10pm and has a separate sleeping room. She has been sick but has to work in injuries and sickness. She hardly gets time to rest. Her master and mistress do not provide any recreational materials at home. She uses her little free time on reading books of the course. She takes bath two times in a week. She does not get breakfast regularly. Her

commonly eaten foods are dal bhat and curry which are different from the owner's food.

Regarding her problems, she says that she has been given heavy work load; family members are much strict so that she can not do anything without their permission. They make her anytime do some kind of work. She does not get time to study. According to her, she was treated badly. She has to face harassment both physically by beating and going with out food and mentally by threatening. She is harassed almost daily. She does not get permission to visit her home in village but her father visits 1-2 times in a year. Her father does not feel happy as he knows her daughter is feeling pain. She has not got any support from any NGOs and INGOs.

Sunita Limbu (Changed Name) does not enjoy staying here and wants to go back her home. Her present home is not good for staying as she gets different food, gets physical and mental stress, she has to do heavy duty. So, her performance is not good in school. All she is doing this now is for her study due to the poor economical condition of her family.

Mamata Tamang (Changed Name)

Mamata Tamang (Changed Name) was from Rautahat district. She was 13 years old and she had 6 members in her family. She was staying in one of the houses in Mhepi working as a domestic child labour. She possessed home and land in village. Her parents' occupation was agriculture. Her family income was not sufficient for her family. She left her village for the first time and working as a DCL. Her parents know where she was staying now. She came here as per the advice of parents and brought in city by her relative. Her parents were literate. She studied up to grade III in her village. Now the employer paid for her study. They sent her school regularly.

As a DCL, she had to do sweeping, sometimes cooking, washing clothes etc. She works 4 hrs a day. Her guardians kept her money and she was planning to send to her parents later. Her earning was not fixed. It depended on the employer's will. She generally went to bed at 10 pm and had a separate sleeping room. She had not been sick since her staying in this house. She had no experience of working in injuries and sickness.

She got enough rest time which she used on reading and playing. She had access to recreational materials like watching TV, badminton, video games etc. at home. She got the same food as others have. Her commonly eaten foods were Dal Bhat, Curry, Momo, Noodles, meat etc. She did not feel any difficulty staying in this home. She was not harassed by the employers. They allowed her to visit her parents in village once a year. Her parents visited her twice a year.

She did not like to leave the place now. Her home environment was favourable for both staying and studying. She was treated well like other family members at home. She wanted to be a nurse in future.

Ramu Yadav (Changed Name)

Ramu Yadav (Changed Name) was staying in one of the houses in Balaju Kathmandu as domestic child labour. He was from Mahottari district. He was 11 years old. There were 8 members in his family including parents, one younger sister and four younger brothers. He had own house and land in village. His parents' occupation was agriculture but did seasonal business of mechanic in Bardibas. He first time left his home as per the advice of his parents and they knew the address where he was staying. Although his parents were illiterate, they sent him to local school where he passed grade 3. Now, the employer offered him to send school and paid for his study.

According to him, he was brought in here by his uncle who earlier worked in one of the relatives of the owner. He was employed to work such as cooking, washing clothes and dishes, sweeping and other household works. He said the main reason for doing this was for his study. He was here for the first time and had to work 7 hrs a day. The money he saved was sent to his parents especially when he went home at Dashain. He always went to bed at 9 pm and slept in his separate sleeping room. He had not been sick during his work period, so he had no experience of working in injuries and sickness.

He said that he had enough rest time and loved playing games and reading. His master also allowed him to use computer, TV etc. at home. He ate the same food as the owner did. His commonly eaten foods were Dal Bhat, meat, noodles etc. He says he had not been facing any problems yet both physically and mentally. He got scolded at the time he made mistakes. His master allowed him to go back home to visit his parents. Ramu Yadav (Changed Name) enjoyed living now. He did not want to leave the place.

Denil Singh (Changed Name)

Denil Singh (Changed Name) was from Kailali Tikapur and working as a domestic child labour in one of the houses in Banalthali Kathmandu. He was 13 years old. There were six members in his family with parents, one elder brother, one younger brother and one younger sister. His parents' occupation was agriculture. His family income was not sufficient for his family. He left his village as per his will to study. He was brought in city by one of his relatives. His parents knew his address where he was living now. His father was literate but mother could not read and write. He studied in his village school up to grade 3 and came here to study better. Now he worked at home in Banathali. He had to do household works like washing and ironing

clothes, cooking, going for shopping, sweeping etc. His reason to work was to study. His employer paid for his study. He worked 6 hrs a day. He sent the money given by the employer as per their will to his parents at Dashain when he went back home. He has suffered from fever and headache and cured it as it is. He took bath twice a week and did not have separate sleeping room. He sleep in the room where his uncle sleep. He did not get harassed except scolded sometimes. He did not like to stay more here and wants to go back home as it was better than now where he was.

School Learning Environment

Good environment is important factor for good learning. School environment should be educational and peaceful. For good learning of child, school environment should be mixture of social value, culture, and education, friendly behaves, safety, practice and organized structure. The relationship among administration, teachers, students, parents is also responsible for good learning school environment for students. In school, students need to feel secure and positive. Teachers should possess all qualities of good teacher. There should be healthy relationship among teachers, students and parents.

The school environment plays an important role to decide the future position of students and their lives. The teaching activities and extra-curricular activities conducted in the school come with in the school environment. There should be rules and regulations to be followed by teachers and students to build their bright career. Students should be regular in school for better achievement. Discipline of students is also responsible for good learning. Teachers should provide counselling to students time to time.

The school is 500 m. far from the city area which is compounded with walls. So, the school environment is safe and peaceful. Learning facilities provided by the school are as follows:

Teachers Guardians Meeting

Teachers, guardians and students play triangular role to enhance the better learning of students. The school organizes the meeting 2 times in a year as an occasion of providing progress report of their students. It is organized to let the guardians know about the achievement of their students, to share the weakness of students with the guardians and home environment of students with teachers. It is a triangular discussion which helps better learning of students. Such kinds of activities help parents to know the reality about the school.

According to the class teacher and head teacher, the presence of guardians of DCL students is nominal than that of non DCL students. The reasons behind it are that they are busy at their work and they have less interest on their students education.

Library Service

Library is important organ of the educational institute to promote the students education. To improve on the achievement and to empower the mind of the students, it should be compulsory in every school. But library has just opened in this school. So students are just using library. It is in practice now.

Drinking Water

Drinking water is sufficient in the school. It provides pure drinking water. It was financed by an American government. The water filter system has 2000 litres capacity of filtering water everyday.

Financial Support

DCL students are poor. They lack money to buy books and stationeries for their study. There is no support for DCL students from school. The government provides scholarship to poor and hardworking students, females, dalit students. The school announces application for that. Also the class teachers are asked to collect the names of needy students from the respective class. Then interview day is notified on which the student should bring their guardians. Then the interview committee selects the name of appropriate students. According to head teacher, it helps those students to carry out their studies. Besides, NGOs like SAHAMATI NEPAL help some needy students for admission, uniform, books and stationeries.

Sport and Extra-Curricular Activities

Sport is the most important part of human life. It helps the students to develop their mental, physical and co-ordinate skill. It also helps them to obey the rules and regulations. It develops co-operation, brotherhood, friendship within competitive environment. It develops team spirit and leadership capacity in a person. The school lacks playground. It does not organize sport programme but allows students to participate in Volleyball, Football, Race etc.

Medical Service

Health is an important part of human life. A person can work well mentally and physically only if S/he is healthy. Sick people become physically weak. On the other hand, they can not concentrate on their study. So, school should be aware of students' health. But in school, there is only primary treatment. There is no service for regular check up.

Classroom Observation of Respondent Children

As a part of research the researcher observed respondent students in the classroom of grade V for 15 days. The classroom activities were observed according as the observation form prepared by the researcher himself consulting with supervisor (see appendix I). The class consisted 70 students out of which 20 were DCL and 50 were non-DCL. They were from different geographical regions and castes. They were scattered randomly in the class. The teacher as usual entered in the class with a greeting and the students responded her. Most of the time, she revised previous lesson before she started the new lesson. She used materials to explain the concept of the lesson. She applied student centred method and kept all students active throughout the period. The students actively took part in answering the questions asked by the teacher. The teacher equally responded the curiosity made by the students. The relationship between the teacher and students was good. She conducted class discussion on which most of the children took part actively. The involvement of students in class work and home work was satisfactory. She even asked students to practise problem on whiteboard. But the classroom was not controlled well in the sense that discipline was not well maintained. Students often made noise. The teacher used different teaching methods like lecture, discovery, question answer, inductive etc. There was enough interaction between teacher and students but was partly disturbed by noise.

The respondent children Denil Singh (Changed Name) takes mathematics as an easy subject. He loved doing mathematics. He looked active in the class and participated in class discussion and work. The teacher said, "*He is less active in grade V than that of IV because he is planning to go home.*" He missed homework once during the observation period. Mamata Tamang who was ranked as second

position in class thinks mathematics as a difficult subject by nature. She involved in class work and homework actively. She was a regular student and submitted homework as well. She also looked active in the class. She had a good learning environment at home. Sunita Limbu (Changed Name) was found to be the most struggling for study as her home environment is not favourable for her. She takes mathematics as the most difficult subject. She looked passive in class. She did not actively involve in discussion and class work in spite of the teacher's encouragement. She was irregular in doing homework. The researcher found that she skipped homework three times during the period. Ramu Yadav (Changed Name) also took math as a difficult subject by nature. He was not active in class. He partially took part in class discussion and missed home work two times. He was poor in math although he practised at home.

In the course of observation, the researcher observed the class on the topics: place value table, subtraction, simplify, multiplication and division of algebraic expressions. The researcher observed difficulties faced by the students in both class work and home work. They were as follows:

- Difficulty on counting according to place value system. (Place Value Table)
- Difficulties on subtraction with carry over. They subtract by taking carry over but forgot to subtract from the previous digit. (Subtraction)
- Problems on using brackets while doing simplification. (Simplify)
- Problems on using + and – in algebraic expression.

It was seen that difficulty depended on the level of students and faced differently. Difficulties were comparatively less in class work than that of homework as the students had access to talk with their friends and also got teacher's guidance in class work. Among the respondent children, Mamata Tamang had to face minimum

difficulties whereas the rest of the students faced all problems mentioned above.

Home environment and pre-knowledge greatly affect their study.

Respondent students

Case Respondent- I (Sunita Limbu (Changed Name))

Sunita Limbu (Changed Name) was born in Ramechhape. She has become domestic child labour for study because her parents can not afford her study. She was keeping her study up together with working for small household works. Her responses are given below:

I do not get enough time to study as well as to do my homework. My employer says that I have to work rather than to study. I am often disturbed from study by asking me to work. I do not have enough clothes to wear at home and get different food to eat. I get little time for study which is not sufficient for my study. I sometimes get support from the house in doing my homework. I do not get real love from them. They pretend to love me at home at the time of my father's arrival but I am punished later and threatened me not to send to school.

The teacher behaves and treats us equally in class. I find the relationship with my peer group is friendly. They never discourage me in study and personal life style. She gets equal support from them. I feel more comfortable at school than that of home. The teacher loves us and encourages by saying that we have to study. As there is no discrimination, quarrel, prejudices among non DCL students, I find their behaviour quite healthy and friendly. There is enough interaction between DCL and teacher regarding subject matter and personal life history. I think the teacher is my real guardian. The teacher helps to minimize my pains by talking to the employer. I think mathematics is difficult subject than others because of less practice at home, unavailability of instruments and discouraging home environment.

Case Respondent-II Mamata Tamang (Changed Name)

Mamata Tamang (Changed Name) was born in Rautahat district . She came here as per the advice of her parents and brought in city by her relative. Her responses are given below:

I have got good home in Mhepi Kathmandu. The employers treat me well just like their own children. I have enough time to study. I have also enough books and stationeries. I am often helped in study by the employer uncle, aunt and brother. They always encourage me to study. A separate room provided to study for me.

Our math teacher is good. She teaches well. Students understand well. I have got second position in class. There is no discrimination among students as DCL and non DCL in the class and outside of the class. So the relationship is friendly among students and teacher. The teacher often encourages all students to study well. Sometimes she tries to understand the life history of students and provide counselling for those who are having home problems. So, I think math teacher is an ideal teacher in the school. I agree that the nature of math is more difficult than other subjects. I practice math less than other subjects. I often face problem in 'Division' in math class. Tamang language does not interfere her learning math as I did not learn it. It is different in spoken form and the way of learning mathematics is same.

Tamang's home environment is good for study. She gets good support from the family members and there is enough interaction in the family. She has been treated as a family member. She is facilitated with books and stationeries. Similarly, school environment is good for study. Her math teacher is an idle teacher. The teacher provides good learning environment in class. Here, again according to Ogbu theory of

discontinuity, there is no difference between home and school culture of DCL. So, learning mathematics results in success. Mamata's got second position in class.

Case Respondent – III Ramu Yadav (Changed Name))

Ramu Yadav (Changed Name) was born in Jaleswor, Mahottari. He has home and land but does not know whether it is sufficient or not. The researcher interviewed him and the responses are given in box below:

I have got good home environment to study. The employer encourages to study and helps in difficulty in study. I have got enough time to study and do homework. I am facilitated with basic needs of books and stationeries. The employers care and love me much and I have time to study as per my will.

My school environment is good to study. The teachers and peer groups behave and treat me well and equally. I do not feel inferior as a DCL and a member of yadav family. There is good relationship among all students. My math teacher is good. She is helpful and always encourages to study. I feel mathematics as a difficult subject. I can not learn math quickly. I am a slow learner in mathematics. I forget math problems quickly even though I practises well. I generally sit in middle bench as per my will and sometimes feel disturbed by my friends' noise in the class. I feel more difficulty in 'division' in math class. I think that math is difficult by nature. yadav has their own language but I never learnt it. So, it does not have interference in learning mathematics and other subjects as well.

Although there is no discontinuity between home and school environment, DCL students have to face difficulty in learning mathematics due to individual capacity in learning. They lack pre knowledge and become slow learner in mathematics.

Case Respondent –IV (Danil (Changed Name))

Danil (Changed Name) was born in Kailali, Tikapur. His home economical condition is not good. As per his interest to study, he came here through his relative to work as a domestic child labour.

I feel sad while studying with working. Now, my home environment is not favourable for me to study in comparison to his village home. I do not get enough time to study. Books and stationeries are not sufficient for me. I have no specified time to study and do homework. I am often disturbed by asking to work. The employers do not treat me well. They do not really love me. The employer sends me school regularly except in urgent work. My parents do not visit me but I am allowed to go back home to visit them twice a year.

I find school good enough to study. Teachers treat equally to all students. There is no discrimination between DCL and non DCL among teachers and students. I like the way math teacher encourages to do home work, class work. I think math teacher is very good. I enjoy learning maths. Maths is my best subject. I think math easier than other subjects. I love practising mathematics. I have no problems in learning mathematics in the class but I sometimes feel disturbed by my friends as they make noise. I wish to have some more extra books and instruments to practise mathematics.

DCL's life at home is very difficult. Most of the time, they work. They have less interaction with family members. So, there is discontinuity between home and school. As a result, they have poor performance in learning mathematics satisfying Ogbu's theory of cultural discontinuity (2000).

From the above facts, the researcher can conclude that home environment of DCL is not favourable and encouraging for study. They have to be busy in household

works all the time and psychologically they are insecure from the behaviour of employer. On the other hand, school environment is quite encouraging for them. The teacher plays the role of real guardian and encourages them to study. Here, according to the theory of cultural discontinuity, Ogbu (2000) argued that due to the cultural discontinuity between home and school, children face difficulties in learning mathematics. Environment of home and school affects learning of children. To sum up, the discontinuity between the culture of home and school (home and school environment) does not support the learning of DCL students. At the same time, Vygotskian constructivism theory emphasizes that knowledge is socially constructed. Social interactions influence on the nature of knowledge being constructed. DCL does not get rich social environment, they have no chance to interact with people out of home and even they have less interaction at home. So they are poor in constructing knowledge through their own capacity. As a result, they face problems in learning mathematics. So, home environment, school environment, guardian's behaviour, behaviour of society and teachers play important role for DCL in learning mathematics.

Math Teacher's View Towards DCL Students

Yasoda Dahal teaches math in grade V. She has been teaching for 20 yrs as a permanent primary teacher. She is from Sindhuli district. Her qualification is IED. She is a trained teacher.

According to the math teacher, non DCL students looked confident and active to learn than DCL as they looked tired and lazy in class. She agreed that they lacked time to study at home. They learnt math slowly as they lacked pre knowledge and had bad home environment. But she felt that DCL were more interested to learn than non DCL. She maintained equal relation among all students. She gave more sympathy to

DCL students. She had attempted to teach DCL separately. For that she formed group at the beginning of the academic session but it did not work out long as the students did not stay in specified group. Now she was teaching together. She said that their guardians had not come to school to talk with their students' performance in mathematics yet. There was equal involvement of all students in class work but DCL students did not complete their home work very often because they said that they had no time to do home work at home. She also said that DCLs were from different districts. So they had different level of knowledge and regional culture. So they felt difficulty in learning.

From the point of view of teacher, the affecting factors were less time to study at home, go without breakfast, discipline, different tradition and culture and lack of pre knowledge.

From the Point of view of yasoda -we can come up with the information that this types of children cannot get defied success in the field of study due to their home environment. They cannot get enough stationary materials which are essential for the study. Due to the over load in their home they cannot have sufficient time study because of that they appear more interested in the class rather than other students. As they are from different social and economical background they look quite different in acutities and behaviours so Mrs. yasoda friends they need to be placed in difference group so they can progress more.

Guardians' View

With the guidelines mentioned in appendix-III, the researcher interviewed the respondent children's guardians whose views were given below.

Krishna Basnet was the guardian of Danil (Changed Name). He was a retired forest officer. According to him, instead of some house hold works to do at home, he

had been given time to study but he preferred playing rather than study. He was provided with books and stationeries. His son studied in grade 10 who supported doing home work for the DCL.

Rajendra Jayasabal was the guardian of Ramu Yadav. He worked in District forest office Kathmandu. He had flexible work load and the family members work together with him. He had enough time to study and do homework. He had specific time to study from 4 pm to 6 pm but he rather liked playing. He also got guidance in his study from the family members especially from his son. Text books and stationeries were enough for him.

Manju Dahal was a Primary teacher and works in Balmandir school. She treated Mamata Tamang as her member of family. She had given equal facility as her only one son. Mamata had enough study time and she did so. Her son assisted her in homework and provided guidance in her whole study. She was ready to provide anything needed for her study. She was planning to create extra study opportunity like tuition and extra classes to upgrade her study.

Ram Bahadur Bhujel was a retired A.S.I. (police). He was the guardian of Sunita Limbu (Changed Name). In the course of his service, he took her his home as per the request of her family. She had been staying with him for 3 years. According to him, she did household works in the morning and evening. She was provided enough time to study and helped in her study including home work. He had also bought books and stationeries for her. She had also given training of beauty parlour at home as the family members were running it.

By taking the views of Mr. Bhujel, the researcher did not satisfy with him as he hide information regarding the DCL in one hand and on the other hand, he provided false information. Through the head teacher and other teaching staffs who closely

know him and also the researcher's own observation, Gita Chalagain is true what she said.

When the researcher tried to get the answer of why the DCL Students have low status in the field of studies with guardians he found that most of the people are providing money and support from their own children but that turns out to be useless because they may not find favourable environment from their owner. From the study we can conclude that DCL children are not being able to use free mind for the studies.

Non DCL students' view

There were 70 students in grade V out of which 20 students were DCL. The class was the mixture of different castes and they came from different districts of Nepal. There was no discrimination in terms of DCL and Non DCL in class and they co-operated each other. The responses of peer groups were given below:

Yubaraj Bhandari was from Dolakha and had been living with his parents at Samakhusi Kathmandu for 5 yrs. He was 12 years old and had 3 younger brothers. His parents worked in Road Division. According to him, he recognized DCL students in class. He made friendship with them. He played with them. He sometimes helped them in study. He knew that they were poor and so loved them. Sometimes he gave pencils and other stationeries when they lacked it. His parents had also positive attitudes towards DCLs and treated them equally.

Rita Rai was 10 yrs old and staying in Sorekhatte Kathmandu with her parents. She had got one elder sister and brother in law and one younger sister. Her father sold vegetables. According to her, she knew DCL students in class and had conversation with them. She never quarrelled with them, instead she loved and cared them as they were poor. She said that they were good at study but sometimes lacked stationeries. She helped them in such matter and sometimes she paid for breakfast in canteen. She

found her math teacher active for good learning. Math was a difficult subject for her. She practised math less in comparison to other subjects. She thought the nature of math was difficult. Her parents had no discrimination among DCLs.

Ramshran Upreti was living with his parents at Thamel Kathmandu. He had got 3 elder sisters and one elder brother. His father worked in Manamohan Memorial Hospital and mother a house wife. He recognized DCL in class and had friendship with them. He helped them in teaching English in class and gave pencils, erasers etc. He took math as a difficult subject. He said that the teacher asked them to do self in copy and board, his friends made noise in class. He always sat in middle bench on window side as per his will which made him difficult to see on white board. He found the problems with 'Division', 'Simplification' difficult.

Ranjeeta Ghimire was 12 years old and she was from Rameshap. She was living with her parents at Paknajol Kathmandu. She had got one elder sister and brother. Her parents ran a hotel. She knew DCL in class. She thought they were poor and wanted to help them. She made friendship with them. She helped them in study. She went to canteen together and paid for them. She gave pencils. She took math as a difficult subject. She did class work and homework. DCLs also involved in class work but sometimes they did not do homework.

From the evidences of different people who have got concern on friends of DCC children we can find that most of the time they lack stationary materials as a result they fail to complete their home works. In some of the moments they don't have money for canteen purposes. If we point the original speech of their class mate that they are equally talented as other students of the class because of some differentials as stationary materials time for the study and lack of money they appear poor in the performance.

Major Factors Affecting Mathematics Learning of DCL Students

From the total involvement in the field, the researcher interviewed students and their guardians, teacher, and observed students' activities in and out of class and found out that there were many influencing factors that affected learning mathematics of DCL students. The researcher had identified such factors related to the environment of their own home, present home, classroom, teachers' view and their individual interests and capacities. The factors are described below which affect their study including learning mathematics:

Bad Attitude of the House Owner

It is said that home is the first school and mother is the first teacher of a child. But DCLs were living in a different world where they lacked own home and parents. Psychologically, they felt insecure towards their existence. They became more helpless and miserable if they were treated badly by their employer. Study in such a situation was almost nothing. One of the respondents said, *"I am harassed both physically by beating and going with out food and mentally by threatening. It happens to me almost daily. I want to leave the place- Sunita Limbu (Changed Name)."* Another said, *" I can not carry out my study with working. The employer does not love me really. I am often disturbed in study by asking to do some kind of work. I am often scolded for minor mistakes- Dinesh (Changed Name)."* It shows that DCLs had to be suffered from the bad behaviour of the house owner which badly influenced their study.

Heavy Work Load

DCLs were employed at home primarily to work, then to study. Those who wanted to study with working were spoilt by heavy duty of the house. Most of the time, they were working. They hardly got rest time. They were often disturbed while

studying by asking to work. One of the respondents said, "*I have to work rather than to study. I work 10.5 hrs a day. I have to work in sickness and injuries. I am often asked to work whenever I start reading at home- Sunita Limbu (Changed Name).*"

Similarly, Maheshwor said, "*I have no sufficient time to study. I am not given specific time to study.*" The math teacher, Yasoda dahal, said, "*They have less time to study at home and they also do homework irregularly.*" So, due to the heavy work, they have no enough time to practise and do homework. It also affected their learning.

Discipline of the Class

Discipline plays a vital role in teaching learning activity. It is equally important for both teachers and students and must be maintained in class by each. In one hand, a teacher always wants discipline from his students. On the other hand, it teaches students to speak truth and follow rules and regulations. So, it is a key to success. But the respondents said, "*Students often make noise in class. It disturbs us from hearing the teacher.*" On the other hand, the teacher says, "*There are 70 students in the class room. So, I can not concentrate their full attention.*" The teacher further agreed with the point that her class was much disturbed and uncontrolled which was one of the affecting factors in learning mathematics.

Different Traditions and Cultures

Obviously school is the mixture of the students of different castes, cultures, traditions, geographical features etc. DCL students came from different districts and so had their regional characteristics. According to the math teacher, it was difficult for her to create learning environment in her class due to the different learning behaviour of students. So it was a big challenge for her to keep individual balance in her class which also affected their learning.

Pre-Knowledge

Regarding the children's learning, Cognitive believes that sense impression is the primary source of knowledge. It becomes knowledge only when the mind systematizes it. So, intellect is taken as the prime source of knowledge. They further believe that pre- knowledge is a pre- requisite to effective learning. According to the respondent students, *"Math is difficult subject. The nature of math is vague. The problems of math are difficult."* On the other hand, the teacher says, *"The students come from different background and often lack pre- knowledge. So, teaching is difficult."* Also the nature of difficulties faced in the classroom showed that learning math was difficult in this class due to the lack of pre- knowledge.

Chapter V

SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of the Study

Nepal is a multi-ethnic, multi-cultural and multi- linguistic country. So, we can find syncretism of various cultures, languages, religions and castes. It is a model of mosaic society. In the real sense, Nepal is a garden of all castes and ethnic group. It is very diverse in its geographic conditions and more complex in its social situation.

Children are the beginners of each new generation. We cannot imagine harmonious society in future unless the children, at present, are provided with better fundamental facilities such as basic needs: food, clothes, shelter, fair social environment and parental care and love. These are the fundamental rights of each and every children living in this world. But it is unfortunate that in Nepal the large numbers of children are found to be engaged indifferent types work and deprived of its fundamental rights mentioned above. (UNICEF, 1996)

In Nepal, there are two lakhs domestic workers out of which 20 thousands are in Kathmandu DCLs are being a helping hand in different household activities. It is very difficult for a DCL to carryout study in a home environment where he/she is employed. This study entitled 'Factors affecting of learning mathematics(A case study of DCL student) ' was developed in the theme that DCLs have poor home environment for study than that of non DCLs. So, the researcher tried to find the learning environment both at home and school and factors affecting to their learning in mathematics. So the study attempted to accomplish the following objectives:

- To identify the learning environment for DCL students in school.
- To find out the major factors that affects the learning of DCL students.

The study was conducted in Shree Siddhi Ganesh higher Secondary School of Kamalamai municipality ward no.6, Sindhuli. This is a case study research design in which meanings were derived from the total study, logic and reasoning of why and how it was like that, linking with the theories. Two boys and girls who are studying at grade V were taken as sample and also their guardians and four peer groups were taken for study. The data were analysed and interpreted under the topics: Introduction to case school, Introduction to respondent students, learning environment of the case school, Classroom observation of respondent children in the case school, Case Study of respondent students. Math teacher's view towards DCL students, Guardians' views towards DCL students, Non DCL students' views towards DCL students, Factors affecting learning of DCL students in mathematics. Then the data were analysed using triangulation method and interpreted using the frame the researcher developed. So the findings are valid.

Findings of the Study

The home environment was not favourable for them to study. The attitude of house owner was not kind, loving and encouraging for study. The family members were much strict and wanted to keep DCLs busy all the time. They had to be victim of physical punishment and mental tortures. They often lacked clothes and good food. They were given heavy duty so that they got very little time to study. Their study time was not fixed and often disturbed by asking to do some kind of work. They took mathematics as a difficult subject in comparison to others. They were more interested in mathematics than non DCL students but felt difficulty in learning due to the lack of pre-knowledge and less time to practise at home. They felt more comfortable in school than at home. Comparatively, they looked more tired than non DCL children. They often came to school without breakfast. But they were curious to learn. There

was healthy relationship among all students and teachers; no discrimination had been found so far. They liked mathematics teacher very much. She was experienced and trained. She taught in a child friendly environment treating every student equally. She encouraged DCL students rather more than non DCLs. She found DCL students more interested in learning. She applied modern methods of teaching.

There was equal participation in class work, group discussion but DCLs were irregular in home work. DCL students faced more difficulties in homework than in classwork. Difficulties faced by DCLs were found in the level of reflecting the concept. They understood the concept but forgot very soon. The major factors affecting the learning of DCL students were: bad attitude of house owner, heavy work load, discipline of the class, different traditions and cultures and pre- knowledge.

Conclusion

The major findings of the study show that DCLs are having unfavourable home environment but feeling more comfortable at school. They have difficulties in learning mathematics connected to home environment and school. Most of the teachers were well qualified, experienced and trained, so teaching is satisfactory in the school. The home environment was not favourable for them to study. Mathematics was difficult subject for them to study. The relationship with non DCL students and teachers was healthy. No special teaching was done for DCL students. More difficulties were found in homework than in class work. Participation and interaction in class discussion was good.

Recommendations

The major reason that children join as domestic labour is due to the poverty. When children leave their homes and start to work as DCL, they have to face a lot of problems and have to overcome them by themselves. Due to this fact, they become

unhealthy, facing malnutrition and suffering from different types of diseases which will affect them physically as well as mentally. Most of the children enter in the labour force due to the pressure of their parents who themselves work as a mediator to supply children to employers. Besides, many children join labour force through their friends, relatives and by their own will. Most of the employers have total control over DCLs lives because of which DCLs do not get proper home environment to study.

On the basis of findings of the study, some useful suggestions should be made in order to create a favourable environment to successively humanize the child labour relationship in the domestic sector for which specific targeted activities need to be designed. The recommendations are since almost half of the population of Nepal lives below the poverty line, children of such households have to support their family or look for better opportunities and are therefore pushed into various forms of labour. Therefore, various programmes should be launched to increase family income and various opportunities for children. The government in all schools of rural and remote area should introduce "Food for education Scheme" as well as school uniform; stationery should be freely distributed for poor school children. Both government and Non-government can play a vital role. Such institutions should launch campaign against the exploitation of child workers. Any forms of child exploitation should be treated as social crime by the law. Rehabilitation centres should be increased in numbers to rescue the children who have been exploited. Parents should be properly informed about the negative impact of the child labour and the employers should be discouraged to employ children for the work. Activate clubs and ward office to provide different skills oriented trainings to DCLs. The school administration should activate 'Counselling Service' to DCL students so effectively that their problems should either be addressed or rescue should be done by shifting their residence.

If the above recommendations are considered seriously and implemented well, the different problems faced by DCLs will be minimized up to large extent and the condition of the DCLs will be well which ultimately enhances their better learning.

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APPENDICES
APPENDIX-I

Observation Area

- 1 Response to the questions asked by the teacher.
- 2 Participation on class discussion.
- 3 Encouragement and motivation of teacher to students.
- 4 Participation on class work and homework.
- 5 Involvement on group work.
- 6 Guidance and feedback of teacher.
- 7 Teaching methods used.
- 8 Teaching behaviour of teacher to DCL and Non DCL students.
- 9 Interaction between teacher and DCL and Non DCL students.
- 10 Relationship between DCL and Non DCL students.
- 11 Difficulties faced by DCL and Non DCL students.

APPENDIX-II

Interview Guideline for DCL students

Name:

Class:

Roll No.:

Position in Class:

Sex:

Place of birth:

Place of residence:

Topics

1. Opportunity to learn at home.
2. Teacher's behaviour towards them.
3. Peer group behaviour.
4. Encouragement by teacher
5. Relationship between teacher and DCL students.
6. Relationship between DCL and non DCL students.
7. Attitudes towards math teacher.
8. Interaction between teacher and DCL students.
9. Difficulty in learning mathematics.

APPENDIX-III

Interview Guideline for Guardians

Name:

Address:

Occupation:

Caste:

Qualification:

Name of DCL:

Topics

1. Guardian's view about DCL.
2. Learning environment provided.
3. View about the improvement of the learning of the student.
4. View about the education of DCL and his own children.

APPENIDX- IV

Interview Guideline for Teacher

Name of the teacher:

Qualification:

Working Period:

Temporary/ Permanent:

Topics

1. View of math teacher towards the achievement of DCL students.
2. Opportunity provided in classroom to DCL by the teacher.
3. Interest of DCL students in math learning.
4. Difference between learning behaviour of DCL and non DCL students.
5. Relationship between teacher and DCL students.
6. Efforts being made by teacher to improve the achievement of DCL students.
7. Interest of guardians about the achievement of DCL students.
8. Participation of DCL students on math class work and home work.
9. Teaching problems/ difficulty faced by teacher in class.
10. Factors affecting in learning mathematics of DCL students.

APPEBDIX-V

Interview Guideline for non-DCL students

Name: Class: Roll No:
Sex: Caste: Position in class:

Topics

1. Attitudes of non DCL students towards DCL.
2. Their help to DCLs.
3. Friendship with DCL students.

APPENDIX-VI

Demography of teaching and non- teaching staff

S.N.	Name of staff	Qualification	Level	Permanent/ Temporary	Training
1	Dil bahadur k.c. (Headmaster)	B.sc. B.Ed.	Secondary	Perma.	Yes
2	Anjani dhakal	B.Ed.	Lower S. (I)	„	„
3	Sankar dhakal	B.Sc. B.Ed.	Secondary	„	„
4	Bed B. Shrestha	M.Ed.	„	„	„
5	Kshetra B. karki	M.A	„	„	„
6	Pratirodh koirala	B.Sc.	„	„	„
7	Prabin K. Khatri	B.Sc.	„	Tempo.	No
8	Bishnu K. Shrestha	B.Ed.	Lower S. (II)	Perma.	Yes
9	Dipnarayan shrestha	M.A, M.Ed., B.Ed.	Secondary	Tempo.	„
10	Sabita Parajuli	M.Ed.	„	„	„
11	Anju Karki		Lower S.	Perma.	„
12	Keshar B. Balampaki	B.A, B.Ed.	„ (II)	„	Yes
13	Bhim Pd. Ghimire	M.A, B.Ed.	„ (II)	„	„
14	Indra Devi Bhatta	B.A	Lower S.	„	
15	Radha Paudasaine	B.Ed.	Secondary	Tempo.	
16	Sharadha Devi Shrestha	I.Ed.	Lower S.	Perma.	Yes
17	Shanti Sigdel	I.Com	„	Tempo.	No
18	Gyanu Sharma(Regmi)	B.Ed.	„	Perma.	Yes
19	Nava k. Raghubansha	I.Ed.	Primary	„	„
20	Rashmi Khadka	I.A	„	„	„
21	Gayatri Devi Adhikari	S.L.C.	„	„	„
22	Nirmala Pyakurel	„	„	„	„
23	Gita Upreti (Sapkota)	B.Ed.	„	„	„
24	Sita Koirala	I.Ed.	„	„	„

25	Yosada dahal	I.Ed.	„	„	„
26	Ajita Gajurel	I.Ed	„	„	„
27	Chandra kala karki	I.Ed	„	„	„
28	Suresh C. Neupane	I.A	„	„	„
29	Bina Shrestha	I.Ed	„	„	„
30	Nanita Adhikari	I.Ed	„	Tempo.	„
31	Navaraj Gajurel	S.L.C.	„	„	No
32	Ramkrishana Adhikari	Peon			
33	Ashok K. Thapa	„			
34	Sabitri pokharel	„			
35	Prem K. Adhikari	„			
36	Jamuna Nepali	„			