

Chapter-I

INTRODUCTION

Background of the Study

As a school subject, mathematics has a tremendous authority. Having difficulty with mathematics is a serious issue. Successes or failure in mathematics in school has a deceive influence on choice of further education and carrier both with regarded to access and necessarily self-confidence. Mathematical competencies are of importance to life as citizen and private individual, social-life and everyday-life (Niss&Hojgard Jensen, 2002). Just like mother tong competency, mathematics is associated with a basic literacy and a corresponding literacy in case of its absence. It is serious matter for a child not to be successful in gaining functional mathematical skills. This lacks of success may have consequences for the both the child's perceptions of their own capacity to manage the challenges of schooling and to their future education and life (Lange, 2009).

Usually the term is applied to students whose learning problems in school are not directly related to specific physical, sensory or intellectual impairment (although in some cases their intelligence may be somewhat below average). Instead the learning difficulties may be due to external factors such as socio-culture disadvantage, limited opportunity to learn, lack of support from home and inappropriate curriculum or insufficient teaching in early years. The learning problems these students experience are often further exacerbate by their emotional reaction to lack of success. These students, in the past have been referred to as "Slow learners" and "Low achievers". Badian (1996) ever refers to them as having "garden variety" learning problems, meaning that such difficulties are widespread and in no way unusual. We normally referred to

these students now as has been general learning difficulties. Their lack of success is evident across most areas of the school curriculum (Westwood, 2008).

Learning difficulties are not uncommon in schools. In a few cases, they may be the result of specific learning disabilities, but they are more likely to be due to environmental factors such as social disadvantage, non-inclusive curriculum, inadequate teaching methods or lack of positive support for learning. Many teachers don't feel competent to meet the need of students with learning difficulties and they tend to blame students for problems in learning. Perspective in learning difficulties varies from country to country (Westwood, 2008).

Niss and Hojgard Jensen, (2002), Lange, (2008), Badian, (1996), West Wood, (2008) are the sources of difficulties. From these sources the learning difficulties in mathematics may be define in terms of output difficulties, organizational difficulties, language difficulties, attention difficulties, visual spatial or ordering difficulties, difficulties in multiple task, and difficulties in cognitive process. However in these learning difficulties in mathematics refers to those outputs in mathematics problem data related to recall basic mathematical fact, procedures, rules, formulae, to retrieving fact or pursue procedure to difficulty in maintaining précising during mathematical work and to difficulties in remembering previously encounter patterns to convert verbal problems in mathematical way and too difficult in inert-relation between content and principle.

Mathematics and Dalit

The word "Mathematics has been taken from a Greek Word 'Mathema' which is derived from 'manthancin' mean 'to learn'. Mathematics is an essential part of civilization. It was originated together with the origin of human civilization so; the study of mathematics is the

study of civilization. It was originated from practical experiences of man's needs and it continued to develop along with the development of civilization and vice-versa. Mathematics is creation of human mind concerned with ideas, process and techniques of research. Mathematics is intimately involved in every moment of every man live. Mathematics is interpreted, explained and used in different ways or situation of human live.

Mathematics is an essential subject of school curriculum. Mathematics gives effective information about figure, tables, chart, diagrams, graphs, geometrical diagram etc. It is necessary for scientific development and modern technology. Mathematics is the important for the study of the physical science, geography, economic, management and psychology. Furthermore mathematics is useful language, tool and need to develop thinking skill. So, mathematics is necessary teaching subject as an important for all children.

Nepal is a country having different casts and cultures among the different casts Brahmin, Chhetri, Newar, Gurung, Magar, Tharu, Raute, Cheman, Dalit, Rai etc come as the main caste of the country. The Dalit community is the backward community as it has been made backward from backward from political, education, social and economic perspective. There are different objectives of education in national and international level, however now it has become an international level. However now it has become an international agenda as it is a national objective to include the backward community in the national mainstream. Especially, the Dalit communities are backward in every aspect of the society.

Dalit refers to groups of people who are religiously, culturally, socially and economically backward who belongs to different language and ethnic-group. They are poor, deprived and socially backward. Poor means they don't have access to enough food, health housing and clothing. They also don't have access to education and employment with deprived from justice which they face in everyday life. Dalit are settled in all the 73 district of Nepal and are known as

untouchable, e.g. Kami, Sarki, Parki, Damai, Badi, Gaine, Sunar, Pod, Bhul and other many castes belong to this group of people. These castes were made on the basis of function they earned out.

Statement of the Problem

Through my own experience of five years of teaching at Shree Bhrikuti Ma. Vi. Kachanrup- 9, Saptari. Researcher faced different problems of teaching and learning mathematics. The Researcher found record of S. L. C. result of over past five years nearly 30 percent students passed in this School. Among them every year nearly 25 percent Dalit student participated in S. L. C. examination but only 0.4 percent passed the examination. It is also one of key factor for the drop out the rate of Dalit students. The S. L. C. result of school also shows that most of the unsuccessful Dalit students have failed mathematics paper and hence it shows there is low achievement of Dalit students in mathematics learning.

Table-1

Achievement of S. L. C. Result

Year	Total Passed %	Dalit %	Dalit Passed %
2067	22.5	28.67	6.25
2068	28.09	27.56	0.00
2069	33.09	22.22	7.14
2070	37.52	26.23	9.19
2071	38.12	25.23	9.52

(Sources: S.L.C. Examination Statistics (B.S. 2067-071), Shree Bhrikuti Ma. Vi. Kachanrup Nagarpalika-9, Saptari since B. S. 2067-071)

From this table, S. L. C. result of Shree Bhrikuti Ma.Vi.Kanchanrup-9 was satisfactory and increases in every year. But the S.L.C. result of Dalit was very poor which decreased the total passed% of S.L.C. of Shree BhrikutiMa. Vi. Kanchanrup-9, Saptari.

To address the reason behind this study focused on the following research question:

- Why Dalit students are back in learning mathematics?
- Is the relationship between teacher and Dalit students seems harmonic?
- What might be the related causes for creating such difficulties?

Objectives of the Study

The main purpose of this study was identifying the causes of difficulties faced by students in mathematics learning by Dalit students at Grade-X. The objectives of the study were found out the main important personal, environmental, influencing factors of low mathematics achievements of Dalit Students. The specific objective of the study is as follow:

- To analyze the causes of learning difficulties faced by Dalit students in mathematics learning.

Significance of the Study

Every research is important in itself because it give details of various unseen facts in any area of study. Most of the Dalit Students are poor in mathematics. It is not known which factors are main contributing factors for difficulties faced by students in mathematics learning of Dalit Students. Which in term could be used to improve the mathematics teaching learning status quo and to reduce failure in mathematics?

The findings of the study would be useful in analyzing the reasons behind this degradation. Hence, this study has the following significance:

- It would be help teachers, policy makers, and related agencies to improve the achievement of Dalit students in mathematics learning.
- It would be help to encourage and motivate the participation of Dalit students in mathematics learning.
- This study would be help to identify and diagnose the difficulties in learning mathematics in secondary level.
- This study also opens the door for further study about the problems of learning mathematics.

Delimitation of the Study

Delimitation of the study concerned with the limitation of time, financial resources and material. Following were the delimitation of this study.

- The study was delimited only in Bhrikuti Ma. Vi. Kanchanrup-9, Nagarpalika of Saptari District.
- The study was conducted only Grade-X of KanchanrupNagarpalika.

Operational Definition of the Related Terms

Participation:In this study participation is defined as involvement of Dalit students of Grade-X, who are academically regular in mathematics classes and participates in every classroom activities, does class works and shares mathematics problems with teachers.

Dalit: The word 'Dalit' refers to untouchable group of society. There are 23 castes according to the flash report I (2061). But this study focused only Chamar (Ram), Khong (Dom), Sardar (Batar), Mushar, etc.

Difficulties: In this study difficulty is defined as the things or situation that causes problems faced by Dalit students of secondary level learning in mathematics such as students feel due to communication, interaction pattern and behavior, participation and leaning opportunity at home and school.

Chapter-II

REVIEW OF RELATED LITERATURE

A review of related literature is source of further study of research task. It helps to give the better idea at surveying in research. There are so many research studies about the difficulties faced by Dalit student in mathematics learning in mathematics under different variables such as teacher, students, teaching method, family background, socio-economic factor, mentally and physically healthy person etc.

In this section, some related literature with this topic was reviewed as mentioned below.

Empirical Review

Adhari (2000) concluded a research on “A comparative study of achievement in mathematics of primary level students related to parents’ income” by using purposively sampling. His study was based on qualitative nature. The finding of this study showed that the achievement of high income group was higher than the achievement of middle and low income group. But the achievement of middle group was not found significantly higher than that of low income group. He found that mathematics achievement of student was affected by their parent’s income.

Hanich (2001) a study on article “Performance across different areas of mathematical cognition in children with learning difficulties” performance of 2001, 2nd grader in different areas of mathematical cognition was examined. Children were divided into four achievement groups. Although children with difficulties in mathematics performed across worse than normally achieving group in most of areas of mathematical cognition which show an advantage over the group with difficulties in both mathematics and reading?

Poudel (2004) did a search entitled “Learning strategies for out of school children from Dalit community.” This main target of research was to find out the learning skills and the way of learning in the daily lives of the untouchable children. To examine the skills which are helping them for life and suggest the way of stabilizing linkage between everyday life and out of school children program in curriculum he found the difference between social and classroom learning in our classes more emphasis was placed on theoretical aspect and less on practical. The study drew some implication for the improvement of teaching and learning method of the out of school program curriculum.

Ghimire (2005) did a case study on “Difficulties on Learning Algebra.” The objective of the study was to identify the difficulties on content of algebra and to identify the difficulties on the classroom practices. This study was conducted with the sample size of four blind students. The students were selected by random sampling process. Different tools such as observation, interview and written test were applied to identify their learning difficulties on algebra. The study concludes that the blind students have able to only add, subtract, multiplies of simple very short algebraic terms but unable to divide and they have the limited knowledge about factorization, H.C.F and L.C.M. They were only organized the equation but cannot solved it and co-ordinate geometry was not of their capacity. The major difficulties of the blind students found such as to develop clear concept and subject matter, to write algebraic concept, to solve process of mathematical problem in Brail Script, to adjust integrated class in learning mathematics and to use material and method in mathematics learning.

Luitel (2005) did a study on “Difficulties Area in Arithmetic for Grade-VIII Deaf Students.” The objective of study was to identify the difficulty in arithmetic and to locate areas as to relate them to their cases. The students were chosen sample random process, observation

and interview were used identify the learning difficulties. The study concluded that deaf students had the fundamental knowledge of mathematics but in academic course they were feeling difficulties in learning mathematic (arithmetic) because of various reasons such as to develop clear concept on verbal problems, to generalize the learners concept, to understand the language association, limited vocabulary in mathematical words, fast forgetting to discriminate the condition of the situation. These difficulties are not only due to their problems but due to the lack of supportive environments such as teaching methods, instructional materials, social interaction, and their place in the family and society.

Adhikari (2006) did a study on “Cultural Discontinuity and Difficulty in Learning Mathematics of Dalit Students.” The objective of this study were to identify the causes of difficulty in learning mathematics at school, influence factors in learning mathematics, impact of home environment. The study was done on four Dalit students, in depth interview, observation fork, written document were main tolls and the study concluded that there is discontinuity between home culture and school couture. The home environment is not supportive for mathematics learning.

Panta (2007) in his doctoral dissertation entitled “A study of learning difficulties in mathematics among Grade-V students in the Kathmandu Valley of Nepal” did a study in a government and private schools. He took students, teachers and parents of the selected schools and his respondents and found the school related factors (quality of school program, quality of teacher, time allotment), class specific factors (quality of instruction, time for learning, opportunity of learning, relationship with other students), home related factors (parental help, sibling support), social factors (home culture and school cultural difference, language of school

and home), personal factors (time for learning and motivation) are the main factors which influence the mathematics learning.

Rijal (2008) conducted a study on “Difficulties in Learning Mathematics”. A Case Study of RanaTharu in Kachanpur District. The objective of this study was to identify the difficulties in learning mathematics of RanaTharu Students at lower secondary level and to identify the causes of difficulties. This study was based on qualitative in nature. The study was conducted with the sample size of five RanaTharu students of Grade-VI. Face to face interview with students, parents, mathematics teachers, head teacher and the observation was taken. Such collected data were analyzed by using mathematic categorization and the interpreted according to the cultural difference and discontinuity. The finding of the study shows that there is cultural difference and discontinuity at school and home. There is discontinuity in language, lack of interpersonal relation, no proper interaction between teachers and student. The home environment and school environment are not conducive for mathematic learning.

Kaphle (2010) conducted a study on” Problem Faced by Tharu Children in Mathematics Classroom at Lower Secondary Level”. This study based on descriptive survey design. The objective of study was to identify and analyze the problem faced by Tharu children at lower secondary level. This research is both qualitative as well as quantitative in nature. Ten schools were selected as sample of study. Classroom observation form and questionnaire to students were used to collect data. On the basis of reviewed literature and different concept of theories (Cultural difference, discontinuity and constructivism) were developed as indicators to analyze problems of the study. The finding of the study shows that there is cultural difference and discontinuity at school and home.

Ghimire (2013) conducted a study on "Difficulties of Student in Learning Mathematics". This study based on descriptive survey design. The objective of this study was to find the difficulties of Bote students in learning mathematics at lower secondary level. This research was qualitative in nature. The study was conducted with sample size of four Bote Students of Grade-VII. Face to face interview with students, parents, mathematical teacher, head teacher and the observation was taken. Such collected data were analyzed by using thematic categorization and interpreted. According to cultural difference and discontinuity, theory finding of the study show that, there is cultural difference and discontinuity at school and home. There is discontinuity in language, poor relation relationship with entire teachers, low participation in classroom discussion, and poor interaction with the teachers. Bote socio-economic and financial condition is not enough to send their children at school and afford them in further education.

Jaishi (2013) did a research entitled "Difficulties in Learning Mathematics of Tamang Students." This study was qualitative in nature. The researcher used purposive sampling to select the information. The objective of this study was to explore the causes of learning difficulties and to identify the impact of home environment of Tamang students to learn mathematics at primary level. The researcher used interview schedule and classroom observation form to collect data. Finding of the study were shows that there is language discontinuity at home and school, there is cultural difference and discontinuity at home and school, there is lack of local teachers and lack of economic condition, there is lack of inter-personal relation between peers, no proper interaction students between students and mathematic teachers, home and school environment is not suitable for mathematics learning.

Chaudhary (2014) did a research entitled "Difficulties faced by Learning Geometry at Lower Secondary Level." This study based on descriptive survey design. The objective of this

study was to find the difficulty faced student in learning geometry at lower secondary level. This research was qualitative in nature. The finding of the study shows that there was discontinuity in language, lack of proper understanding about geometry contents and figure, lack of interpersonal relation, no proper interaction between teachers and students, low attends in class, lack of understanding languages in mathematics learning.

Theoretical Review

Cultural Difference and Discontinuity Theory

In this section, the researcher discussed the theoretical framework for the study that has support the significance of difficulties on learning mathematics of Dalit students. Discontinuity, difference between the culture of home and school, there were more difficulty in learning mathematics and participation of Dalit students, simply because of conflicting nature of curriculum, educational setting, socio-cultural background, teaching practices of the children. As a consequence, children from Dalit students learn poorly in class and ultimately they have no option except drooping out from their school. Dalit students were from poor economic environment, illiterate family backgrounds they faced many difficulties in learning mathematics. There were many learning theories which can be used for the analysis an interpretation of data such as social learning theory, cultural language theory everyday life theory and cultural difference/discounting theory and so on. So for the analysis and interpretation data the researcher had used a cultural discontinuity theory of John Ogbu(2000, 2001).

Ogbu (2000) delineate about the cultural differences and cultural discontinuity that deals with the problem in children learning caused by the differences and discontinuities between culture of home and school. Those children whose home cultures are much similar to cultures of schools can cope easily with the system that may result better learning achievement. Similarly,

the children with un matched or dissimilar home cultures with school cultures and they don't have enough attention in their learning and don't get much recognition of the their culture and they have to work hard achieving learning outcomes compare to the children with good matched.

Ogbu (2001) emphasizes learning most only as the product of the cultural and language differences but rather the nature of the relation between the culture and language of minority/disadvantaged and dominant groups. The dominant group controls the school system through implementation of their curriculum, and using their language as the only means of instruction. Regarding culture difference, identity and school learning, he has put the examples on the case of the United States of American (USA).

However, he developed the theory of culture difference on the case of US. It might have implication to his study that is related to cultural discontinuity and learning difficulties in mathematics of Dalit who also disadvantages group in term of culture of discrimination, domination and backward form mainstream. Mainly the Dalit children hesitated to interact with the other children in the school as well as in the community due to the socio-cultural reasons. Such scenario hinders interaction and participation with other caste people that observing and engaging in the works of their father, mother and elders. But they do not get the opportunity in the school excepting listening, which is the dominating activity during the day at school.

As his study suggests, involuntary minorities face more difficulties in school learning participation and performance due to big gap between their cultures and mainstream culture. For them it is too difficult to cross cultural boundaries in school compared to the voluntary minorities with the primary cultural difference. He further elaborate that primary cultural differenced may crate problem in the inter personal and inter group relations as real as difficulties in academic

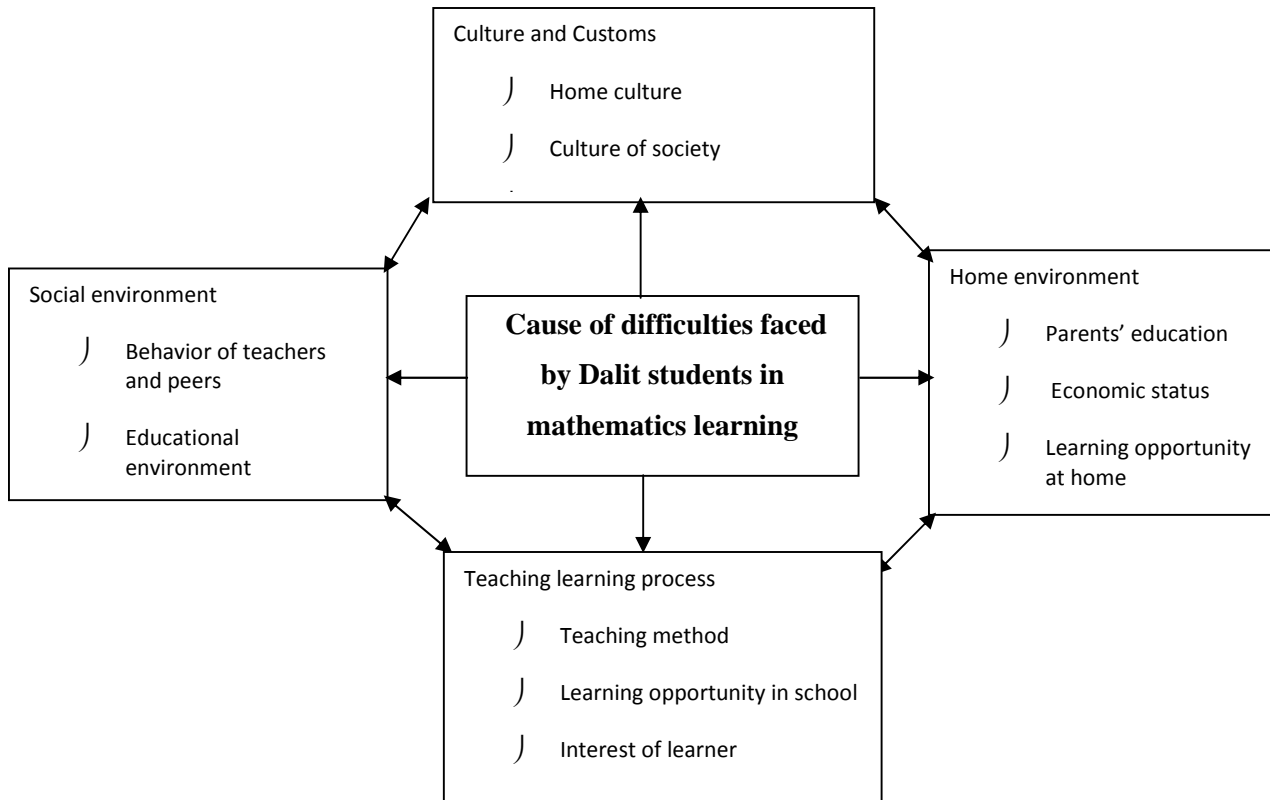
work, for several reasons. Among them, most important reasons as children with different cultural backgrounds start schooling assuming different cultural world and human relation in school but they get a vast difference reality in school. Next lack of necessary concept and skills in their own cultures may obstacle their learning.

Ogbu's Theory in the context of Ethnic Group of Community

Dalit children are more or less concerned with school problems and the problems of caste like minority. The children with similar culture with the culture of school may do well on school where as the disadvantage minority children like Dalit children may have poor performance in the school because their culture are less congruent and in compatible with the culture of school. Since they are provided education in culturally different environments, they certainly face difficulties in acquiring skills and contents demanded by the curriculum through teaching/learning activities rather than they are culturally deprived in learning.

Ogbu (2001) furthermore argues that discontinuity is also occurred in the area of language, thought and measurement. It happens mainly due to the difference between the teaching and learning strategies in home/community i.e. informal education and the style used in school i.e. formal education. Similarly, since children learn in school environment without to their natural context in their experience, learning may have no any significance to their everyday life. Ogbu (1982), argue that the primary secondary cultural discontinuity also cause the difficulties in learning and he argues that the children from disadvantage caste tends to develop coping behavior and attitudes that are different to school culture that obstructs their learning. The theory of cultural discontinuity describes social structure but there are micro culture in every household that influencing children's learning,. In his consideration everyday life theory is to consider finding out the children's home and their interpretation to it

Conceptual Framework



(Fig.: Conceptual Framework of the Study Source: Awasthi, 2014)

This is the case study related to causes of difficulties faced by Dalit students in mathematics learning in public schools, which were based up on the cultural discontinuity theory this frame work was directly adopted from a thesis prepared by ChaturbhujAwasthi.

From above discussed point of view in related literature, difficulties faced by Dalit students learning in mathematics may depend upon different variables. These variables are as home environment, culture and customs, teaching learning process and the social environment. The conceptual framework is helpful in findings the causes of difficulties faced by Dalit students learning in mathematics. Hence, home environment reflects the parent's education, economics

status and learning opportunity at home. Culture and customs reflects home culture and culture of society. Social environment reflects behavior of teachers and peers and educational environment. Teaching learning process reflects teaching method, learning opportunity at school and interest of learner.

Chapter-III

METHODS AND PROCEDURES

Research is the systematic approach to obtain new and reliable knowledge (Ethridg, 1995). Research methodology is a science which determines how the research becomes complete and systematics. So, the methodology is the branch of the research. It is a qualitative research, the researcher study things in their natural setting attempting to make sense of or interpret phenomenon in terms of meaning of people being to them. This research involve the study and collection of validity of empirical materials, case study, personal experience, life story, interviews, observation, historical interaction, visual text that describes routine and problematic moment and meaning in individuals lives (Anderson, 2001).

This chapter describes the design of study, sample of the study, tools of study, data collection method, interpretation of the data etc. Here, researcher took some major procedure for research methodology.

Design of the Study

This is a qualitative research. This is a case study design, where Dalit is case for this research that specially concerned with causes of difficulties facing in mathematics learning. A comprehensive study of a social unit is that unit person, a group, a social institution, a district or a community called a case study (Young P. V., 1998). In the case study researcher typically observe the characteristics of an individual unit, a child, a class, a school or a community. The data collected through observation, interview with a students, mathematics teacher, Head teacher and parents of sample students. The data analyzed through the descriptive method.

Sample of the Study

Nepal's former education system comprises of Primary, Secondary and Higher Secondary School which includes +2 year of education and University Education. But, researcher focus was secondary level of Dalit Students who have difficulties in mathematics learning.

This is a case study. In this case study the researcher case is Dalit Student. So, the researcher selected 5 Dalit sample students out of 67 students of Grade-X. The researcher selected 2 boy and 3 girl by using purposive sampling methods which gave appropriate and actual information. The criteria of selecting respondent were gender, family status and student's position in class. Purposive sampling method is the process of selecting representative sample on the basis of objectives.

According to District Education Office of Saptari, there are 9 public and 5 private secondary schools in Kanchanrup Municipality. The researcher was selected 1 secondary public school by purposively sampling method where the percentage of the Dalit student maximum in Grade-X. The researcher selected 5 Dalit students out of -19 Dalit students. So, these students were taken from Shree Bhrikuti Ma. Vi. Kanchanrup – 9, Saptari. Mathematics teacher, headmaster and parents of the sample students were selected as respondent to the researcher's convenience.

Tools of the Study

For this study the researcher had used the following tools to collect the necessarily information.

) *Observation* - “Observation may be defined as systematic viewing coupled with consideration of seen phenomenon” (Young P. V., 1998).

The observation schedules prepared by the suggestion of supervisor. Here the researcher included the case student’s behavior with teachers, behaviors with peer, attitude towards teachers and peers, relation with mathematics teachers, Head teacher and peers, participation of case students in group and individuals, homework, classwork, teacher activities with case students. If the form was incomplete during the observation the researcher can use the personal diary for recording data. This was related with Appendix- A.

) *Interview Schedule* - “The interview is the face to face interpersonal role situation in which one person, interviewer, ask a person being interviewed, the respondent, questions designed to obtained answers, pertinent to the research problems (Kerlinger, 2000).

On the basis of objective of the study the researcher prepared the interview schedule for Mathematics Teacher, Head Teacher, students as well as parents.

The data from the interviews were taken from direct questions. Here the researcher took interview with case students, parents of those case students and mathematics teachers with their experiences, opinions, feelings, and knowledge..

Reliability and Validity of Tools

The tools used in research are the gold standard tools for qualitative data collections and were pre-tested tools for data collection. The subject expert, specialist, and supervisor checked the reliability and validity of the tools and necessary one with the help of supervisor replaced the unnecessary notation.

Cross-match or triangulation method gives an accurate and reliable picture of situation. So the validity of tools were maintained by Cross-matching or triangulation the data collected from

classroom observation and interview with students, parents, mathematics teacher and headmaster.

Data Collection Procedure

The researcher spent one month (i.e. 30 days) time duration for collection of data for this study. Researcher followed the following procedures for collecting data for this study.

- I. Mathematics classroom was observed by using classroom observation form “Appendix – A” to note the events of the classroom and school. The researcher watched, listened, interacted and then recorded the essential data about learning environment and activities in real situation. The research observation list was administered to collect data about learning environment and Dalit student activities in real situation. The researcher also maintained a diary to note down information during observation. The researcher observed the 10 grade mathematics class during observation period and noted the events of the classroom and school environment. The detail data of school environment, home environment and individual respondent character were obtained by observing and filling the observation forms “Appendix –A”.
- II. Interview was also conducted to Dalit students, their parents, mathematics teacher and head teacher separately in order to investigate difficulty faced by Dalit students in mathematics learning. Researcher had prepared interview guidelines under the heading like home environment, school environment, work load, learning style and their interest in mathematics. Researcher conducted interview with Dalit students using interviews guideline “Appendix-B” one by one to collect identical information from all respondents. Similarly, separate interview was also conducted with mathematics teacher, head teacher and parents of each respondent by using interview guideline “Appendix-C”, “Appendix-

D” and “Appendix-E” respectively. Similarly views of head teacher were taken separately about each respondent. Also frequent interaction was conducted with the parents, teacher and the respondents. Ultimately, the researcher prepared the individual respondent records separately.

- III. The unpublished documents like school record files, attendance register, school result sheet, teacher profile, obtained marks recorded registered responded from 8 up to 10 classes, scholarship scheme register of Dalit students were studied thoroughly to collect secondary information from the school.

Data Analysis and Interpretation

Analysis of the data is descriptive in nature. The researcher read all the data to obtain the general sense. The first, the collected information categorized according to category of the respondents and different themes are given in the text of interviewed and the observation form.

Recently the world triangulation has been used widely in the discussion of qualitative researcher. Triangulation is a method to get an accurate and reliable picture of situation. The idea of assessing learning and attitudes from a range of perspectives is called triangulation. The researcher was trying to understand by collection different kinds of information from different perspectives from different sources and with data triangulation where the data were obtained from the classroom observation and interview with the students, teachers and parents.

Chapter-IV

ANALYSIS AND INTERPRETATION OF DATA

This is a case study related to causes of learning difficulties of Dalit students at Grade X of KanchanrupNagarपालिका of Saptari District. The main objective of this study is to analyze the causes of learning difficulties faced by Dalit students learning in mathematics. The main tools used for this study were interview schedules, class observation forms and related published and unpublished school documents. The main respondents of this study were focus children, parent, head teacher and mathematics teacher of Grade- X of the school. Only one school had chosen for this study purposively.

This chapter includes the analysis and interpretation of the study. The data obtained of the study are presented in terms of following topics: Learning environment at home and school, language, interpersonal relation, teacher-students interaction, Gender discrimination, Irregularity, Lack of parental involvement in the school, Lack of believe and support and Teaching method. The collected information at first was categorized according to the category of the respondent and different themes were given in the text of interview or the observation notes. These themes were considered as a code and the similar code. Version of respondents were collected together and explained in their perspectives. The school environment and other details were obtained by observing school environment and interviewing with the Head Teachers as well document analysis of the schools. The home environment and other details were obtained by taking interview with their parent. The researcher had noted the case students' pre-class document, their regularity in class, their behaviors, etc. from the school documents.

The descriptive methods were used mainly in this research because this is qualitative study. The researcher had as attempted to calculate the study describing and analyzing the information acquired in the research process. The collected information were analyzed and described in the following headings:

1. Introduction of case Students

2. Causes of difficulties faced by the Dalit students learning in Mathematic

- Learning environment at home and school
- Parents' education and economic condition
- Language
- teachers' students' interaction
- Gender discrimination
- Irregularity
- Lack of parental involvement in the school
- Lack of believe and support
- Teaching learning process

Introduction of case students

Respondent-A

Respondent-A is of fifteen years old boy and he study in the class 10. He was born in KanchanrupNagarpalika, ward No: 9 of Saptari District. It takes about 15 min. to him to go to

school from his home. There are six members in his family. In comparison with other Dalit family, his family seemed a little bit small. His father Riksha Driver and mother is house wife. Sometimes his mother goes to KoshiTappu to bring Pater and makes mat (Gonair) by that Pater. After selling Goniar in Hatiya, she earns some money. He also helps his mother to bring Pater.

From this research, it seemed that his family was poor in economic condition as well as in education. Before going to school, he was busy in house hold works and in leisure times he was busy in playing Football. It seemed his Guardians were very careless for his study. He felt that mathematics was very hard subject. He didn't complete his homework. Due to poverty, he didn't take tuitions. When the researcher was in his house he said, "I felt difficulties in learning mathematics because there were no other higher educated people to teach mathematics. He said, "Hum hisabnasamjhaichiyai (i.e. in English: I could not understand mathematics)."

Respondent -B

Respondent-B is seventeen years old girl studying in class-X. She was born at ParemaraTole, Kachanrup Nagarpalika-5 of Saptari District. She has seven family members in her family. In her family she is the greatest child of their parents. When researcher observed her house and family, the researcher found that their economic condition is very poor. The researcher found that as she is the greatest child of her family, she always engaged in house hold works. So, she has not enough time to do mathematics practices at home.

Her family income is business of selling Chatpate. She is interested in study and she also interested in making Chatpate. She said, "Our economic condition is very poor." She is laborious and curious student. She could not speak Nepali language fluently. She said, "I feel difficulty while writing and speaking Nepali language at school." She does homework every day and

attends the class regularly. She said, “I understand mathematics at class but I couldn’t remember for a long time.” She said, “Dalit student feel mathematics as a difficult subject due to various reasons such as lack of tuition opportunity, poor economic problems, lack of educated people at home, due to the traditional culture and poor language.”

Respondent-C

Respondent-C is one of the Dalit girl students of Shree Bhrikuti Ma. Vi. She is seventeen years old and she reads in class-X. She got third position in class-X. Though she likes the subjects Nepali and science but she doesn’t like Mathematics and English. She is one of the talent student of that school and she also takes participate in extracurricular activities. But due to her poor economic condition of her family, she doesn’t spend more in study. Also she doesn’t practice mathematics problems at home due to lack of time. Her mother is house wife and her mother also works in the field of other person as a worker. Her father is a shoe maker but he has not awareness to teach children.

The researcher also found that she regularly participated in extracurricular activities in the school and most of time she own the first prize. The researcher also found that she regular in taking class. However some times, she missed the class because of her house hold works. She is also punctuality of taking class. She wants to try to do mathematics homework but she rarely complete mathematics problems because she doesn’t enough time to do homework.

Respondent-D

Respondent-D is sixteen years old girl studying in Grade-X. She was born in PiprapurwaTole Kanchanrup-9, Saptari District. Her family is a joint family. She has eleven members in her family. She is elder daughter in her family. Her family economic condition is not sound. Her father is in India for earning money. Her main work is taken care of her younger sister/brother when her elder male member goes for their works. Her family is illiterate family.

She is average in study and she shows some interest in her study but due to insufficient time she can't practice math and do other homework. Mathematics teacher said, "She try to do homework but commits mistakes while doing due to lack of guidance." She has only the best friend her own caste. She says that her friends had already married. She is quite aged among her friends and due to that she feels quite un-easy with her classmates. Her mother said, "Due to joint family she have little space to get adjust and have to pay more attention to her to younger sister that deters to her study." When the researcher observed the class, she rarely interacts in the class and shares her opinions with teachers. She said teachers also don't pay attention to the girls students. Head teacher said, "Her parents don't visit school and try to know about her education." According to her mother they are more conscious about her marriage rather than continuing her study.

Respondent-E

Respondent-E is seventeen years old reading in class-X, one of the Dalit students of class- X. He is one of the top ten students of class-X. He has seven family members. His father do labor work mother is a housewife. He is the first child of his parents. Sometimes his mother brings wood from KoshiTappu and sells it to earn some money. He also helps his mother to bring

burning wood so he has not enough time to study but he is a laborious student. He labors hard. His interested subjective is mathematics but he doesn't more practice due to lack of time. His parents have not awareness to teach the children. The researcher found that, there was no any concern about their children education. He does not want to make friendship with naughty children who don't read carefully and dropping out the school. According to the schools register, he was often being absent. He said, "a Teacher behavior towards me is equality with other Non-Dalit student." I study only one hour in the evening, so that he has enough time to do more mathematics practices at home. Due to the household work he has not time to study at home. When he researcher observed the class, the researcher found most of the places fully captured by the upper caste student. He says that discrimination of untouchable prevails more in society and also in school. In society, upper caste children are not given chance to meet, play, eat and sit together with the lower castes by their parents.

Cause of Difficulties Faced by Dalit Student in Mathematics Learning

There were so many causes of difficulties faced by Dalit student in mathematics learning with the help of related literature, theory, interview with student, their parents and guardians, mathematics teacher and related document of schools, it was assumed that there were different causes of difficulties faced by Dalit students. Such variables are described separately as follow:

1) Learning environment at home and school

Environment is the totality of the educational atmosphere in home and school. Home is regarded as the first school to all individual. They learn how to behave, how to respect elders, how to co-operate to each other. Home environment play a vital role in learning. Home environment refers the occupation, economic condition, and learning opportunity if the student at home. School is the second home of any child. The teachers, students and parents are the components of the school. School environment reflects believe and tradition of the school community delineating the relation among parents, students and teachers. Scholarship to the student, extra classes provided, dominance of language, and cultural dominance are the major aspects of school environment.

Dalit students use informal language in his/her family, low word (i.e., not standard vocabulary) but in school informal language is not suitable. But in schools standard vocabulary are used. In every house hold there is micro cultural which is discontinued in school culture. There is gap between silence culture and forward culture. Home environment is affected by everyday life of all individuals.

“We don’t have basic thinks in our house, how long we go on this way. We are in difficult situation to survive. How can we send the children to school?”(Parent’s Views)

From the above view, it indicates that the economic status of family influence to the achievement of the student. The high economic can get better chances to buy books, copies, and take tuition and coaching classes. Mathematics needs more labor and effort than other subjects. Dalit student have not obtained such facility at home.

“Our parents forced us house hold works making mat (Gonaire), carrying burning wood, Kharahi. They said making Gonaire is our main occupation. Parents said to us you most should engage in caring patter and making Gonaire with it rather than school.”(Student’s View)

The above view indicates that children of Dalit student have no sufficient time at home for mathematics learning. They have to engage to solve their economic problems. The learning opportunity at home for the Dalit student is not sufficient. Mathematics needs more practice to achieve the good marks. Dalit children have not obtained such facilities.

The environment at home, Dalit student didn’t support to learn mathematics. The researcher indicated that respondents A, B, C, D and E have to be engaged in household works. They don’t have time to study at home. Due to these preasons, they always absent in school. Teachers didn’t ask this type of student about their home environment. In home they learned by observing and doing things side by side. But they didn’t get chances as such in school. There are great difference between the everyday life of Dalit student and school practice. The everyday lives of Dalit student in home and school practice are different. In school, they get theoretical knowledge like they have to use theorem to solve different problems. But they practical works in their home like making *Gonaire, Patiyar, and using hand EkBita, Ek Hat, EkGaj etc.* Also they have to rely on tradition units (*Mana/Pathi, Paseri, Muthi, Bita etc.*) which is used everywhere in the society. These discontinuities between everyday life and school practice make Dalit students feel complicated on learning mathematics. So they felt difficulties to lean mathematics simple problems like LCM, LCF of algebraic function, word problems, multiply by minus sigh, construction of angles, parallel line, parallelogram, triangle are main difficulties. Ogbu, (2001) theory argued that due to the cultural discontinuous between home and school Dalit student felt difficulties in learning mathematics. To some of the cultural

discontinuities between home and school is not support the mathematics learning of Dalit students.

Finally, researcher found that culture of Dalit home and schools were unmatched. So the Dalit student failed in mathematics. The home environment of Dalit student is not favorable for the mathematics learning and school environment is not conducting for the mathematics learning.

2) Parents Education and Economic Condition

Dalit are always kept far from opportunity by the state. Most of the Dalit people of parental generation are uneducated and their economic condition is very low. They could not fulfill the needs of family. Dalit are uneducated person due to the lack of knowledge about the important of education. So they are engaged in farming and household works. As a result, their children also engaged in the same works like *as making Gaonaire, making shoes, mat etc.* It developed work, transmission from mother to daughter and father to son. This process is also help to transfer from generation to generation. Dalit children learn and develop away copy with situation and task and particularly method of civilizing style to the best situation. For the example, most of the Dalit student traditional measurement tools like *Ek hat, Ekbita, Ekgaj, etc.* in their house. In school, students used special or standard measurement tools like kilogram, gram, kilometer, centimeter, etc. measuring instruments like protector, scale, compass etc. There are discontinuities between traditional practices and modern practices. Hence according to the theory of cultural discontinuities, there are discontinuities between, home and schools environment. So Dalit student felt difficulties in learning mathematics.

The researcher asked with Dalit student with their parents and head teacher on the topic, “How does parents’ education and income affect their children education?”

- *“I am illiterate and the children are left to themselves for their homework.” (Parents)*
- *“We can’t afford for the education the income is nearly enough for fooding and clothing.” (Parents)*
- *“Education has no used especially in daughter like they since they have to the household works after marriage.” (Parents)*
- *“I think this education would not play vital role in individual’s learning.I expect my son could do some occupation as soon as possible by leaving school .It would be far better if he can join making shoe or other any.”(Parents)*
- *“We have to go to work to earn money for food, clothing and education.” (Students)*
- *“My parents can’t afford for school fee, tuition fee.” (Students)*
- *“Dalit students have to earn pocket money themselves. So they focus on wage- earning job rather than study.” (Head Teacher)*
- *“Dalit parents are often illiterate hence they don’t give concern about their children’s education.They don’t take part in conference because of careless of their children.Parents awareness about study of their children is main things to improve their children study.”(Mathematics Teacher)*

From the above views, the researcher found that the Dalit student failed in S. L. C. in mathematics because of the extreme poverty they faced in everyday life. Most of the Dalit student families have difficulties in hand -to- mouth. Due to Dalit student didn’t do their mathematics homework regularly. Due to lack of guidance of parents and sufficient time at home for mathematics practices they become weak in mathematics.

3) Language

Language is the most of essential affected factor in failure of Dalit students in mathematics. It is the great medium of human civilization that said them apart from the other living beings. Language is a system of communication medium for thought. It is the major component for the learning. When the researcher absorbed a class it was found that there is language misunderstanding between teacher and Dalit students. Dalit student usually used informal (mother tongue) language but their teacher and friend didn't that informal language. Teacher and other student want to have listened formal respective language. Because of this cause, the relation between teacher and Dalit student and their friend is not good. From the class observation, the researcher found that Dalit student are always silent in the class room. Then the researcher asked to Respondent-A, why do you often remind silent in the classroom? He replied, *"Hamra Nepalibolalnai hoichhai. Sarobolaichhi, padhaichhai ta naibujhichhhiyai."* Also he said, *"Our parents at home frequently speak Maithili language but they don't use Nepali. So we must speak Maithili Language. We have no opportunity to learn Nepali Language at home but in school teacher always teach us in Nepali language. If teacher taught us in Maithili Language, it would be easier for us to understand the mathematics problems."*

"Dalit student have language problems they are not good speaker of Nepali correctly, they speak mixed language (Maithili language used in Nepali language), which creates difficulty in understanding Nepali Language in comparison to other student. That causes they are failure in mathematics in S. L. C." (Mathematics teacher)

The above responses it shows that, Dalit student used their own language at school and classroom but teacher used Nepali language at classroom. There is a language misunderstanding

between teacher and Dalit student. It is the main problems for learning mathematics to Dalit students.

Episode

“In an observed class, mathematics teacher went to the class and then after the researcher also entered in the class, the entire student stood up and said Good Morning Sir! The teacher also said Good Morning and Sit Down. It was noticed that the school environment has taught them about the respect for the teacher. There were seventy students in the class. Teacher took the attendance of the students. There were 45 students on that day present. Teacher said, “Open your book please” and he wrote the topic indices. He wrote a problem on the black board and solved it. All the students were busy to write the solution from the blackboard. The teacher didn’t review the previous lesson a related topic for Indices and didn’t check the homework. After some time the teacher asked with the student, whether you understood the lesson or not. Some student said, “Yes Sir!” but one of the Dalit student asked with teacher in own language. Teacher didn’t understand his language and teacher asked him, “What do you mean?” and also said do not use your own language; it is school not your home. After this student other Dalit students didn’t try to ask again about mathematics problems to teacher. They got much depressed and sit on the bench. The teacher again repeated the problems on the blackboard. Then the class is finished.

From the above classroom observation, the activities of mathematics teacher and Dalit students is concluded that, Dalit student use their own language in school and but teacher use Nepali language in classroom but teacher could not understand their language. There is language misunderstanding between teacher and Dalit student. It is the main problem for learning mathematics to Dalit student. This also matches with theory of discontinuity by Ogbu, (2001).

Hence, it is concluded that language arises the difficulties in learning mathematics for Dalit students.

4) Teacher- Students Interactions

Interaction is a social activity. Interaction may be within person or a group. Within, interaction refers to the mental activity with his/her mind and soul. It depends upon the person intellectual capacity. Inter-individual interaction refers to the sharing, adjustment, and cooperation. The interaction between persons may be symbolic or code language. Interaction brings the maturity in learning.

In these study teacher-students interaction means the relation of Dalit students with mathematics teachers, Head Master and other students of class. In observed class, researcher five key respondents were silent in the class. The researcher asked questions with them, “Why do you silent in class?” They simultaneously said we like to be silent Miss. Incase respondent-A is afraid of asking questions to teacher. He feels problems to ask question in the class due to his improper language that the teacher don’t understood and become angry. Dalit student were afraid of asking questions in the class. They felt difficulty to ask questions with the teacher due to language problems. It made to sit silence either they understand or not understand.

Episode

The teacher was just entered in the class with the teaching materials. Researcher was also entered in the class with mathematics teacher. He had started to teach. He wrote the topic construction of ‘Parallelogram of Same Base and standing on same Parallel Lines.’ He review the previous lesson on that they one of the researcher respondent asked question with the teacher from the previous lesson in their own language. “Sir humhishabnaisamjhiyai.” Teacher was

angry and said if you want to ask question to me, ask in Nepali language. Don't use your language. The student was quite serious. Teacher constructed a parallelogram on the black board using geometry box. Then, teacher asked some questions with other students. But Dalit student didn't provide such opportunity in the class. They were sitting in the last bench and seem to be silent. He further constructs another parallelogram. Teacher asked with student, "Did you construct parallelogram?" One of the student said, "Nai Sir!" Teacher didn't care him. The class was finished and the teacher gave homeworks for remaining questions.

From the above classroom activities researcher found that the Dalit student often remain silent, frustrated and hesitated to take part in learning activities because lack of prerequisites knowledge of related chapter. The children are generally afraid of asking questions to teacher. They felt problems to asked question in the class due to his language that the teacher didn't understand and become angry. Dalit student most often receive dominated behavior and have to cope with humiliating environment in the class only because of their poor Nepali Language proficiency. There is no proper communication with mathematics teacher and Dalit student in mathematics classroom. It shows that, the culture of home is also creates difficulties for learning mathematics. So, interaction also influences to learn mathematics and they feel difficulty in learning mathematics.

Hence, according to the theory of cultural discontinuity Ogbu, (2000, 2001) argued that due to cultural discontinuity between home and school children face problems in learning mathematics.

5) **Gender Discrimination**

Nepal is patriarchal structure. It seems that women are not given equal position in the society by males and they are in continuous issue for the equal right. In Nepalese society, there is believed that son looks after parents in their old age and daughter for maintenance of household works. Due to this believes, sons are given and daughters are kept in the four walls of the house. Specially, Dalit keeps discrimination although son and daughter are preliminary uneducated.

The researcher found that in Dalit society there are great differences existing between son and daughter. They learn to do house hold works, to bring Pater is only for girls, they also think that it is only the task of the girls. Dalit women are forced to accept discrimination and differences. Dalit girls are forced to do household works, take care of small sister and brother because their mother has been doing it, so they have to do it. Their mother thinks that daughter most do household works. It is her duty to finish all the works of house.

“Education has no use especially in daughter life. Since they have to does the household works after marriage.”(Parent’s View)

“I think this education is not for us because we are poor people and our children can’t read or write as other rich people children can do. It is enough if they know their simple calculation and simple reading and writing skill. So I expect could do some occupation as soon as possible without getting higher education. It would be better off she can join farming.” (Parent’s View)

“I think that, education has no great significant. So I don’t send our children in the school. Moreover, girls become the victims of such consequences that generally happens indoor, rural and uneducated society. Another misfortune to the girls in our society is that are

not allowed to do outdoor activities which increase confidence in them. There is an inborn concept about the girls that they should not be sent in the outdoor activities because they can't do. So I think that girls would do only household activities outside the home are danger for them.” (Parent’s View)

“According to the awareness of children education of Dalit parents they discriminate their daughter .They encourage their sons more than daughter to stud .That is one of the causes of difficulty faced by Dalit learning in mathematics.But we never discriminate between boys and girls in school.”(Mathematics teacher)

From the above response there is clear that there is psychological domination that girls are facing in their daily life, which prevent them from building of their confidence which ultimately affects their performance level in mathematics. the social practices that encourage people to send daughter to household to work and sons to play ground are the outcomes of the systems that unequally ensures son inheritance right to the paternal - maternal properties and considered daughter as an ‘object’ for giving away to other people. Sons are regarded as important family supporter whereas daughter are regarded to be the worker to be engage in their husbands in home such behavior of parents influences a lot difficulty in learning process of mathematics.

6) Irregularity

Irregularity is one of the main problems of Dalit student in mathematics learning. They are compelled to go their school after the completion of their house hold works is their family concept. To approaches the school, the school is their second priority because their first priory is to manage food to survive their leaves. For which they have to be

engage in carrying burning wood, Pater, Kharahi from KoshiTappu and working at other houses. It shows that they are usually irregular in their school. The data provided by the school can be presented as below:

Table-2

Attendance

Name of Respondents	Mean of Attendance Day (Monthly)
AmitSardar	10
AnuradhaSardar	6
Anita Sardar	7
Ram Kumar Ram	9
RajaniKumariKhong	11

(Source: Attendance Register of Shree Bhrikuti Ma.Vi.Kanchanrup-9, Sapteri.)

The above mention data present that their attendance in their school is measurable. It is concluded that their irregularity in schools is very high. Due to this, they are feel difficulties in learning mathematics.

“I am not regular in school due to house hold works. I can’t understand the following lesson of the absent classes. Other causes of not understanding the lesson is language. Due to these reasons assignment can’t be solved. There are many members at home but a few members are capable of earning. Life is difficult t survive. We have to face difficulty in buying books and

copies. Then, I am afraid of getting punishment and leave the desire of going school.” (Dalit Student)

“It is so difficult for each student due to their irregularity. Student should be engaged in exercise after the completion of basic knowledge. But due to their irregularity in the classes, we get confused whether to revise the lesson or initiate new exercise. Therefore, irregularity students can’t make their humiliation and they can’t proceed forward in learning. Thus, Dalit students feel mathematics is very hard subject.” (Mathematics Teacher)

“There is great impact in mathematics learning because of their, we did of great effort to make them regular in the class but we could not success completely. Its main reason that, Dalit parents are uneducated, lack of positive concept of parents towards education and poor economic condition are the factors are playing circular role in the irregularity of the Dalit Students. After getting information about their daily life, I concluded that, their study can’t be improved until they are regular.” (Head Teacher)

From the above responses, the researcher concludes that there is vast irregularity of the Dalit student in the classes which justify that there is a great problem in mathematics learning. The study also shows that many Dalit students are unable to go to school which is far from their interest. The low economic condition, work load at home, language and fear of punishment from teacher, they feel quite difficult and afraid to go to school. Therefore, such irregularities create the great obstacle in mathematics.

7) Lack of Parental Involvement in the School

Respondents’ parents don’t frequently visit the school. They don’t visit school in any functions and any time with any comments of teacher side and their children side about the

educational materials. In a study by Keith and Keith, (1993), they found that family from all socio-economic levels is involving with the children educations at home. However, families with of higher socio-economic status tended to be more involved at school.

An interview with head teacher, he said respondent's parents rarely visits their children school even not once a year and never try to know their educational status. Parents of one respondent out rightly spoke out that, school should be responsible for their children and parents further express that, they even don't know their teachers and even don't leave enough time to allocate to visit school due to socio-economic condition.

The parental involvement in the life of school turned out to be a positive influence upon people progress and development. Thesis included, help in class room and educational visit, attendance at meeting to discuss children progress (Poland and Bourne, 1994). The parental involvement in people's educational development within the home is also clearly beneficial. Parents who read to their children, read them and provided them with excess to book at home had positive effects upon their children learning. Parents' teacher meeting concluded in school lacks the presence of Dalit student parents clearly signifies that teacher seems less responsible towards Dalit student. The essence of maintaining reciprocal relationship among teacher and parents normally leads towards betterment in teaching learning procedure. But communication gap make teacher less accountable towards their responsibility.

Studies have shown that parental involvement directly affects their children mathematics achievement (Sender and Sheldon, 2009, Yan and Lin, 2005). Students with parents are involve in their education are more likely to perform better in mathematics and achieve more than other students (Sirvani, 2007) agrees with this and claimed that parental involvement contributes

significantly to achievement of both primary and secondary school students in mathematics. In addition, these students are more likely to continue further in mathematics (Sheldon, 2009). Yan and Lin, 2005 also claimed that, the higher expectation parents have for their children mathematics achievement more than children.

8) Lack of Belief and Support

Parental belief has a significant impact on student mathematics achievement and attitude towards mathematics (Fan and Chen, 2001, Aunola et al, 2003). Parental aspiration and parent's attitude toward mathematics have been identified as having a significant impact on students' participation in advance level mathematics and student achievement in mathematics.

Parents of respondent hold a dogmatic notion that will not pay and good for them and seem lacking confidence towards their children that they could do better in their future. One of the respondent parents reveals that *"we have not notice any individual from our cast doing good after completion of high school completion of high school education. So, we prefer our children to do some household works such as farming, Gonaire making, labor works etc."*

Some of respondents were found they are interested to go to work, so they were frequently absent at school. Student thinks school learning can't support their daily life. High school passed candidate from Dalit community is also not involved in any good occupation. So, it argue the parents to engage their children to their own parental occupation like shoe making, Gonaire making, Dalo making, in labor activities. Thus such, dogmatic thought leads the children to develop inferior complex and which prone them in lacking confidence and solving technical subject like mathematics.

Government and non-government agencies didn't provide scholarship to the respondent. They didn't get any financial supports and or other educational support from any agencies. While observing, researcher found that, school don't have the provision to support students providing scholarship and boost of their mortality. Parents feel extra burden to provide school dress and educational material to their children and school has also over looked such problems which has somehow deteriorated their firm mentally whether to continue their education or not. Resultantly, the students feel inferior among their peer group and can't progress in their education due to lack of concentration in subject matter. Thus, how it is the next determining difficulties in learning in mathematics.

9) Teaching Learning Process

Teaching learning process is main factors in learning mathematics. Teacher education experiences and expertise determine the teacher qualification. Mathematics is a practical subject. It can be solved by different process. The way the teacher directly effort on the mathematical learning of the student teachers behaviors, teaching method, practical application of the subject of teaching learning methods are the form of teaching learning process.

The experienced teacher makes him/her student tounderstand. A train teacher can attract the student towards the mathematics on base of different teaching skill on teaching learning process. A train teacher can use rightly and appropriately the teaching materials and makes the teaching learning easy and interesting. Mathematics is practical subject, so use of teaching material is necessary in the study of this subject. If we can't use appropriate method, then the teaching learning process can't be effective in mathematics teaching. There are so many methods are being used like discovery, problem solving, discussion, experimental, etc.

When researcher visited in her field she found that the mathematics teacher has experienced of six years. There was no problem about mathematics teacher. But there was problems of teaching materials because of this school are situated in rare place.

“I often used center method as well as explain the problems steps by steps. But school has problems of teaching materials. We have not sufficient teaching materials as we need. But our school usually promotes the student participation for teaching in the classroom.”(Mathematics Teacher)

This statement tells, there are some problems to use appropriate methods like as lack of teaching materials, knowledge of methods for teacher.

Interest of learner influences the teaching learning strategies, achievement strategy and achievement of students. When man is being growth and develops, the area of interest is being increasing. Interest depends upon the individual some are interested in gains, some are in study, music, arts, literature, etc. If the students are interested in mathematics then he/she gives enough time to study mathematics and ultimately gets good achievement in this subject. But if the student take as a hard subject they can't solve the problems and they don't take the more time for this subject.

“I feel mathematics as a hard subject because of lack of practice. I most do house hold works at least 4-5 hours per days.”(Student's View)

“They have believed that mathematics is a difficult subject. This believes prevent them from taking a general subject.”(Mathematics Teacher and Head Master)

Chapter-V

SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATION

This chapter deals with the summary, findings from the discussion of chapter and conclusions and recommendations for further study. In this chapter it includes the summary of the research.

Summary of the Study

A range of source shows that mathematics failure is problems not only in Nepal but in world low achievement in mathematics are creating difficulties in teaching learning.

This is a case study related to causes of difficulties in mathematics learning of Dalit student at Grade-X in Kanchanrup Nagarpalika-9, Saptari. The purpose of the study was to identify the causes of difficulties in learning mathematics. For this purpose, the specific objective is to analyze the background causes of learning difficulties faced by Dalit students in mathematics learning. The major tools used for this study were interview schedule, class observation form and related published and unpublished documents. The respondent of this this studies were Dalit student of Class-X, mathematics teacher, Head Teacher, and Parents.

Findings of the Study

From this case study, causes of the difficulties in learning mathematics of Dalit students following are the major finding:

- Dalit financial condition is not strong to send their children at school and afford them in their further education. Most of the parents are illiterate and their children are used as the means of earning money for their simply livelihood.

- By the economic condition and lack of positive concept about the education of their parents, they are irregular in the school.
- There is a discrimination concept between son and daughter.
- There is lack of interpersonal relation between Dalit student and mathematics teacher and other students in class.
- There is a discontinuity between practice of mathematical concept in home and school.
- Dalit student have used their mother language at home and Nepali language as the second language which never used in his/her home. There is language discontinuity at home and in school.
- The school shouldn't provide scholarship and financial aid to Dalit students who were economically and most talented.
- Lack of parents-teacher is also problems. There are highly qualified teacher but not sufficient.
- Home environment. Language, economic condition, irregular in the school and interpersonal relations are the major difficulties in mathematics learning of Dalit student.

Conclusion

Regarding the conclusion the researcher derived from her field works in Shree Bhrikuti Ma. Vi. InKanchanrup Nagarpalika-9, Saptari. Dalit student are very high numbers in the school but in very low numbers student passed in the S. L. C. examination. Most of them failed in mathematics subject. They are almost absence in the class. According to mathematics teacher,

Dalit students are poorer than other students in learning mathematics. From the study, the researcher draws the following:

- Language plays the vital role in mathematics learning. Due to the lack of proper understanding of the language, that creates the difficulties in mathematics learning.
- The culture also play vital role in mathematics learning. Due to unmatched culture at home and school that raise the difficulties in mathematics learning.
- The learning environments play vital role better performance in mathematics learning. Due to the lack of proper environment at school that creates the difficulties in mathematics learning.
- To upgrade economic condition government should employ their parent. To create learning environment at home awareness their parents by organizing some program and to provide the extra classes in the school specially focused Dalit students.

Recommendations

Dalit parents don't take much interested in how their children are learning. They should be aware to enhance the education to their children. To raise the mathematics achievement of Dalit student, different awareness and opportunity should be made available. This research is not complete research. There is limitation of this research. However after analyzing and conclusion of the study, the research has made the following recommendation for further study to validate the present study finding:

- This study was done only in Kanchanrup Nagarpalika-9, Saptari as a case. For the generalization of result of the study, similar study should be done in a wide scope and large sample.
- The study of these kinds should be concluded at all level of schools and other subjects as well.
- Similar study can be carried out in private schools.
- Similar study can be carried out for different branch of mathematics.
- Similar study can be carried out in another special community.
- Similar study can be done on the causes of schools drop out problems of Dalit student.

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Appendix-A

Observation Form for Children Participation in Learning in the Classroom

School:

Respondents' Attendance:

Date of Observation:

Topic/Sub topic:

Teachers' Activity	Children's Participation Individually	Children's Participation in Group	Homework	Classwork	Observation Comment

The observation of the selected Dalit student was taken on the basis of following main topics and noted in details everyday:

- Friends behavior towards children
- Main area of interest in learning
- Teachers behavior towards the children
- Main interesting things in learning mathematics
- Main difficulty things in learning mathematics.

Appendix-B

Interview Guideline with Key Respondents

Name of Student:

Date:

Class:

Roll No. :

Age:

Gender:

Address:

Position in the class:

Name of School:

The interview with the Key respondents had been taken on the basis of following main topics:

- Family background and Culture/Language
- Personal history and Interest
- Reading opportunity at home
- View about the learning environment at school and home
- Interaction and discussion with classmates and teachers
- Homework and classwork
- View about mathematics and teachers
- Causes of difficulties in learning mathematics
- Expectation with teacher, parents and school.

Appendix-C

Interview Guideline with Mathematics Teacher

Name:

Date:

Qualification:

Sex:

Experience:

Address:

Training:

Name of School:

The interview with the mathematics teacher had been taken on the basis of following main topics:

- Teaching strategies
- Problems on teaching Dalit Students
- Encouragement provided to the student learning
- Participation on the class
- Area of difficulties in learning mathematics
- Causes of difficulties in learning mathematics
- Effects of culture and language in learning mathematics
- Relation with students

Appendix-D

Interview Guideline with Head Teacher

Name:

Date:

Qualification:

Sex:

Experience:

Address:

Name of School:

Training

The interview with the Head Teacher had been taken on the basis of following main topics:

- Learning environment in the school
- Students and teacher relation
- Students opportunity for learning with teacher
- Guidance/Training for mathematics teachers
- Difficulties things for Dalit Students at school
- Causes for difficulties in learning mathematics

Appendix-E

Interview Guideline with Parents

Name:

Date:

Age:

Duration:

Education Status:

Gender:

Address:

The interview with the parents of key respondents had been taken on the basis of following main topics:

- Economic condition
- Behavior towards child at home
- Environment at home for learning
- Child's interest
- Reading/Practicing opportunity at home
- Physical facility for learning
- Expectation from school