

**DIFFICULTIES OF MUSAHAR STUDENTS IN LEARNING
MATHEMATICS**

**A
THESIS
BY
PRAMOD KUMAR SAH**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER'S IN MATHEMATICS EDUCATION**

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शिक्षा शास्त्र केन्द्रीय विभाग

विश्वविद्यालय क्याम्पस
कीर्तिपुर, काठमाडौं, नेपाल

गणित शिक्षा विभाग

UNIVERSITY CAMPUS
Kirtipur, Kathmandu, Nepal

TRIBHUVAN UNIVERSITY

CENTRAL DEPARTMENT OF EDUCATION

DEPARTMENT OF MATHEMATICS EDUCATION

पत्र संख्या:-
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LETTER FOR CERTIFICATE

This is to certify that Pramod Kumar Sah, a student of semester system 2070/2071 with campus Roll Number 832, Thesis Number 1370, Exam Roll Number 280477 and TU Registration Number 9-2-589-371-2009 has completed this thesis for the period prescribed by the rules and regulations of Tribhuvan University, Kirtipur Kathmandu, Nepal. This Thesis entitled "**Difficulties of Musahar Students in Learning Mathematics**" has been prepared based on the result of his investigations. I hereby recommended and forward this thesis for the evaluation as partial requirement to award the degree of Masters in Mathematics education.

.....
Assoc. Prof. Laxmi Narayan Yadav

December, 2019

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विश्वविद्यालय क्याम्पस
कीर्तिपुर, काठमाडौं, नेपाल
UNIVERSITY CAMPUS
Kirtipur, Kathmandu, Nepal

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DEPARTMENT OF MATHEMATICS EDUCATION

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Ref.

मिति:
Date:

LETTER OF APPROVAL

This thesis submitted by Mr. Pramod Kumar Sah entitled on “**Difficulties of Musahar Students in Learning Mathematics**” has been approved as for the partial fulfillment for the requirement of Master's Degree in Mathematics Education.

Viva-Voce Committee

Signature

Assoc. Prof. Laxmi Narayan Yadav
(Chairman)

.....

Prof. Uma Nath Panday
(External)

.....

Prof. Dr. Bed Raj Acharya
(Member)

.....

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विश्वविद्यालय क्याम्पस
कीर्तिपुर, काठमाडौं, नेपाल

UNIVERSITY CAMPUS
Kirtipur, Kathmandu, Nepal

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DEPARTMENT OF MATHEMATICS EDUCATION

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RECOMMENDATION FOR ACCEPTANCE

This is to certify that Mr. Pramod Kumar sah, has completed his thesis entitled
“Difficulties of Musahar Students in Learning Mathematics” under my
supervision during the period prescribed by the rules and regulations of the Tribhuvan
University, Nepal. The study embodies the result of investigation conducting during
the period of 2018-2019 under the department of Mathematics Education, University
Campus, Tribhuvan University, Kirtipur, Kathmandu. I recommend and forward this
thesis to the Department of Mathematics Education to organize final viva-voce.

.....
Prof. Dr. Bed Raj Acharya

(Supervisor)

December, 2019

Poush, 2076

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DECLARATION

I hereby declare that this thesis is my original work. It contains no material which has been accepted for the award of other degree in any institutions. To the best of my knowledge and belief, this thesis contains no material previously published by any authors due acknowledgement has been made.

.....

(Pramod Kumar Sah)

December, 2019

Poush, 2076

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.....
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ABSTRACT

The main purpose of this study was to find the mathematics learning difficulties of musahar students, to explore their difficulties of musahar students to learn mathematics and to cope of the challenges in learning mathematics by musahar students. This study used qualitative research design. The research was conducted in five schools of Saptary district and five musahar students, five parents, two mathematics teachers and two head teachers from each school were from sample of the study. The tools used in data collection procedure are interview, review of document and classroom observation. So the methodologies of the research were classroom observation and face to face interview.

Based on reviewed literature and different concept of theories, data have been analyzed and interpreted to find out the causes of learning difficulties of musahar students in mathematics. It was found that learning environment at home and school, language, interpersonal relation, teacher-students interaction, gender discrimination, irregularity, lack of parent involvement in the school, lack of support and belief and teaching method have emerged as the major causes behind the learning difficulties of musahar students in mathematics. It was also found that, creating good learning environment, good educational and economical statuses of parents, use of local language for teaching learning mathematics and parental involvement in school were main addresses problem of musahar students in mathematics.

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Chapters: I

INTRODUCTION

Background of the Study

Nepal is a multicultural, multilingual and multi-religious country with 26,494,504 populations with 125 ethnic groups and 123 mother tongues. (National Census Report 2068). In the past education was considered as a special privilege for the upper class but at present education is considered as a right for all. The Musahar are considered one of the lowest of the dalit groups within Nepal and suffered tremendously from their status in society. Their name is derived from two words "rat catcher" and is likely attributed to them for tendency to eat rodents in times of dire need. There are 0.89% (234,490) Musahar populations of total population of Nepal. (National Census Report, 2068).

Land ownership is rare and most will work as agricultural laborers or forest and fishing. The women also work in agriculture or other the cooking at home. Education is not valued and literacy is extremely low. Their traditional area is mainly in the Terai region. At the present, they live in the district of Sunsary, Saptary, Shirha, Dhanusha, Mahotary, Sarlahi, Rautahat, Bara and Parsa. And their main language is Maithali and religion is Hinduism. They are also scattered all over the Terai and outside of Nepal. They are found in Bihar, Utara khand and other state of India. The Musahar are the indigenous inhabitants of the Terai region of Nepal and India, their ancestral land is called Mushari.

Due to their extreme poverty, they live in the towns and cities which have very poor in health, nor they have the capacity to able themselves of these facilities. The result is desperate in health care situation. Child mortality and maternal mortality are

high and the life span is short which is exasperated by high rates of alcoholism among the male population.

In many condition of the result, they have low position in the caste hierarchy. They are considered untouchables and treated with disdain by all other sections of the society. Any attempts at economic advancement will be taken away from them or destroyed and they have little or no capacity to retain property rights. Their constitution rights of education and food subsidies are routinely denied through corruption and caste based policies. They are powerless and voiceless, unable to change their situation alone. Sadly many Musahar women are kidnapped or sold into prostitution in the major metropolitan cities. Without recourse this becomes their new life, oppressed, abused and forced to suffer in silence.

The Musahars are belonging one the dalit communities in the Terai (the lowlands of Nepal bordering India). Dalits (the untouchables) are the social groups who "possess the lowest rank" in the traditional Hindu caste hierarchy. This community is marginalized and poor. The Musahars are the most illiterate among the dalits of the terai. They haven't basic knowledge about diarrhea depends on various factors such as educational status, prior experience of managing the disease and even ethnicity.

Through numerous studies have been conducted on diarrhea throughout the world, there are very few studies in Nepal. Nepal is a small country but there are various ethnic and caste groups which have their own culture, traditions, beliefs and practices. Musahars are one of the highly neglected ethnic groups and they fall under the category of dalit caste. Thus, the study was designed to accomplish the objectives of determining mothers' knowledge about childhood diarrhea and its management

among the Musahars community of the Morang district, Nepal (Australasian Medical Journal, 2016).

The Musahars are a Hindu Scheduled Caste found in the states of Bihar and Uttar Pradesh in India. They also exist in Terai, Nepal. They are also known as Banbasi and on the plateau as pasa.

The Musahar were traditionally rat-catchers, and there is still uncertainty as to a local legend, the god Parmashwar created man and gave him a horse to ride. The first Musahar decided to dig holes in the belly of the horse to fix his feet as he rode. This offended Parmeshwar, who punished them by making them rat-catchers.

In Bihar, the word Musahar is said to be derived from mus, a local Bhojpuri and Sanskrit (mus) word for a rat or mouse, on account of their traditional occupation as rat catchers. They are found in Uttar Pradesh, Bihar and North Madhya Pradesh and the Terai region of Nepal. The Musahar speak the Bhojpurhi, Hindi, Maithali, and Nepali.

The Dalit people or "untouchable" are India's lowest caste. They are shunned by society and suffer from exclusion, discrimination and exploitation. The Musahar, their main temple or god is Dinabhadri where that in saptary district.

Mathematics is the subject that has significant impacts on people. Every people need mathematics to solve the problems in the daily activities. The development of mathematics was with the development of human civilization. "Mathematics is used throughout the whole world as an essential tool in many fields, including natural science, engineering, medicine and the social science" (Bell, 2008)

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 mathematics 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 past have been referred to as "Slow learning" 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 environmental factors such as social disadvantage, non-inclusive curriculum, inadequate teaching method 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).

The Right to Education Acts 2009, emphasized on the equal opportunity for all the children to acquire education. However, the findings of the study revealed that, Musahar children are deprived of even the basic rights of survival. They are not only discriminated and excluded by the non-scheduled caste populous but by their scheduled caste counterparts as well. Maximum youth in Musahar community aged between 25-30 were observed to be illiterate; as even among the dalits, the Musahars are particularly excluded from the education system. Among them, very few received the opportunity to be enrolled in the primary schools. After overcoming constant obstacles, very few succeeded in completing matriculation, but none could pursue education beyond. Though the community aspired to educate their children, but most of them were not enrolled in any of the government primary school located near their habitation. Teachers and staff members expressed reluctance regarding the admission of Musahar children. They remarked, 'yes, sab jatikay log humarayyanahiaatayhain' (these types of caste people don't approach our school). The only primary Government school in which Musahar children were identified was situated in Musahar area, and the school was recognized exclusively for Musahar, but few other Dalit children too were enrolled along with them. The significant observation was that, even though majority were Musahar, but still these children were particularly excluded, discriminated and treated inferior as compared to other Dalit children in the school.

Niss and Hojgardjenden, (2012), Lange,(2008), Badin, (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 mathematics fact, procedures, rules, formula, to retrieving fact or pursue procedure to difficulty in mathematics précising during mathematical work and to difficulties in remembering previously encounter patterns to convert verbal problems in mathematical way and difficult in inert-relation between content and principle.

Mathematics and Musahar Students

The word "Mathematics" comes from Greek word "mathema" with the meaning "knowledge, study and learning". In ancient time, people felt their concern about the knowledge on mathematics. They were of course motivated in their social needs. Civilization flourished such as the Babylonians, the Greeks, the Hindi, the Chinese, the Japanese and the Arabs etc. they have contributed a lot in discovers in field of mathematics. Mathematics has led to the development of various subjects, vocations and technology. It is science, which is still playing an important role in various field of life. 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. Mathematical is creation of human mind concerned with ideas, process and techniques of research. Mathematics is intimately associated in every moment of man's life. Mathematics is interpreted, explained and used in different ways or situation of human live.

As generally from an uneducated background, the Musahar students are identified as having specific learning difficulties especially in mathematical difficulty (dyscalculia) but there is a divergence of views about causes and identification. Interestingly, it has been suggested that Musahar students actually have a mathematical learning difficulty. It is believed that most of the Musahar students have a learning difficulty. That is, educators have created their mathematical problems regardless of the reason for Musahar students' mathematical difficulties. Musahar students with learning difficulties may already have an external locus of control. They believe they can't improve their mathematical capacities. It is when they feel confident to move ahead, make mistakes, discuss and question, that engagement and achievement will occur.

Musahars refers to groups of people who are religiously, culturally, socially and economically backward, who belong to different language and ethnic groups. They are poor, deprived and socially backward. Poor meaning they do not have access to enough food, health housing and clothing. They also do not have access to education and employment with deprived from justice, which they face in everyday life. In Nepal most of the people are involved in agriculture fields. Musahar people's main occupation is also same as agriculture. But these days diverse occupations they follow. Some people follow, driving, cleaning the Hospital, to earning the money another country.

Statement of the Problem

This study is mainly concerned about the mathematics learning difficulties of Musahar students. So, discuss about the learning difficulties faced by Musahar students to improve the condition. This study analyses the difficulty in learning mathematics of Musahar students in learning mathematics at basic level in terms of

culture, learning opportunities and classroom social dynamics. Previous researches have claimed that teachers are reluctant in using teaching materials, different approaches and methods in teaching and managing learning in mathematics class. Musahar students are culturally different from mainstream school cultures that are shaped according to Aryan-Khasa culture, may have problems in communication and Learning difficulties of Musahar students in mathematics learning along the other caste students. The researcher thus intends to find out the difficulties faced by Musahar in learning mathematics in relation to different perspectives and its influence on such learning mathematics at basic level.

The following are the main research questions for the study:

- What are the difficulties of Musahar students in learning mathematics?
- What are the causes of difficulties of Musahar students in learning mathematics?
- How can we address the problems faced by learning mathematics of Musahar students?

Objectives

The following are the main objectives of the study

- 1 To find the mathematics learning strategies of Musahar students.
- 2 To explore the difficulties of Musahar students to learn Mathematics.
- 3 To cope with the challenges in learning mathematics by Musahar students

Significance of the Study

Mathematics has got a prominent place in school curriculum for its utilitarian value. It has been taught as a compulsory subject at basic level of school education program and compulsory as well as major subject at secondary level of school education program. Consideration of cultural aspect of student in basic education can

heighten the moral of the children in learning. It should be considered in teaching mathematics too. Every culture group student comes to school with their own mathematical concepts more or less. Nepali language is introduced as the official language is used as the medium of instruction in all school and the national curriculum which sometime has been too problematic for learning to those children who have different mother tongue.

The dissimilar measurement code used in home and school influenced learning mathematics. Impact of cultural difference in children's learning and school due to the unmatched condition of learning strategies of children and teaching style of the teacher seen to be a researchable topic.

So, this study tried to investigate the cause of learning difficulties of Musahar students in learning mathematics.

Hence the significance of this study can be listed as follows:

- This study would be helpful to identify the learning difficulties of Musahar students in learning mathematics.
- This study would helpful to find and solve learning difficulties of Musahar students in mathematics.
- This study would help for increase the learning activities of Musahar students in mathematics.
- This study would be useful for Musahar community, parents, teachers, students and other stakeholders related to educational sector.

Delimitation of the Study

The research is related to learning difficulties of Musahar students in mathematics. Any study can't overcome all the fields. The delimitation of the studies are as follows:

- The research is delimitation to five schools Raypur, Khokshar, Kataiya, Bishapitti and Bhagawatpur VDC of Saptary District.
- The study is including only class VIII students from selected schools, so its finding can't be generalized elsewhere.
- The basic education data for the research is collects by questionnaire, semi-structure interview schedule and class observation.

Definition of Related Terms

Musahar -	A Dalit ethnic group of Nepal who is scatted in many districts of Terai.
Student-	Students are the Musahar Students which are study in samples school.
Learning difficulties-	Learning difficulties is obstruction in learning mathematics in which students feel due to communication, interaction pattern and behavior, participation and learning opportunities at home and school.
Environment-	Environment is the term that indicates home environments and school environments.
Interpersonal relation-	Interpersonal relation means relation between Musahar students and other cast students.
Participation -	In this research participation means regularity in classroom, interaction with teacher and friends, completion of homework and classwork etc.

Chapter: II

REVIEW OF RELATED LITERATURE

The related studies construct the platform for standing to the research of the subject which gives the theoretical support for the study. Review of related literature is an exactly task is calling for a deep insight and clear prospect of over all fields. In this chapter different literature relevant to cause of difficulties in mathematics learning have been reviewed in order to know about their causes. The main purpose of review of related literature is to find out what works have been done to the area of study being under taken. It helps to conduct the new research study and avoids the necessary duplication. Mainly the literatures were previous thesis, books, journals and internet etc. (Khanal, 2010).

There are two types of literature which is empirical literature includes the different researches in the problem faced by the learning mathematics and theoretical literature for understanding the learning mathematics.

Empirical Review

Singh (2016), conducted a research entitled "Role of environment on mathematics achievement of Tharu students". He used quantitative research design. He was from the finding of the study the researcher made concluded that the parent's education is most contributing factor on their students that other factor. So parent's education is strongly positive associated with mathematics achievement of students. It concluded that the parent involvement factors are very essential for increasing the mathematics achievement. They are able to increase mathematics achievement by providing almost facilities for reading and writing as well as parents guiding for doing homework by parents education and encouraging their children is better mathematics achievement.

Shrestha(2003), studied "The measurement system in Newar civilization" with the objective of gradual development. His research was based on primary and secondary data consisting of the study of profiles, consulting with resource persons and the study of related journals books, micro files etc. He found that all the numerals of Newar civilization were found as developed from the Brahmin. The ciphered numeral system was used during the Lichhatee period. This study has not showed the present mathematics practices in real life as Newar. The conclusion of above research were the research facilitate to understanding modern mathematics in the school level mathematics curriculum and these research showed that Musahars have their own mathematical process and geometrical concepts and also showed that the situation of children into the formal system.

Ghimire(2005), did a case study on "Difficulties on Learning of algebra". The objectives of this study were to identify the difficulties on content of algebra and to identify the difficulties on classroom practices. The sample size of this study is four blind students. The students were selected by random sample process. Different tools such; observation interviews and written text were applied to identify their learning difficulties on algebra. A study found that the blind students had able to only add, subtract, multiple, divide and they have the limited knowledge about the factorization, HCF and LCM. They were only recognize the equal but can't solve it and co-ordinate geometry was out of their capacity. The major difficulties of the blind students were found such as to develop clear concept on subject matter, to write algebraic concept, to solve process of mathematical problems Brail script and to use material and methods in mathematics learning.

Conclusion of above study was display that the attitude of Musahar students towards mathematics is positive and boys' and girls' attitude towards is not different,

the attitude of Musahar students towards mathematics is positive but its relation with achievement in mathematics is negative.

Rijal (2008), conducted a study on "Difficulties in Learning Mathematics". A case study of Ranatharu in Kanchanpur district. The objective of this study was to identify the difficulties in learning mathematics Rana Tharu 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 Rana Tharu 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 mathematics 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 students. The home environment and school environment are not conducive for mathematics learning.

Aale (2012), conducted a research on "Mathematics learning difficulties of Magar children at primary level". The main objective of this research were to analyze the role of cultural continuity of school and home cultural in facilitating mathematics learning and to explain the individual and school strategies to address learning difficulties in mathematics of Magar students. This study was based on the qualitative research and case study design where learning was case for this research that specially concerned with the exploring meanings and the way people understand. The tools of this study were semi-structured interview, observation form. This case study explained the role of instructional language used in mathematics classroom at primary level.

Some are India information of Musahar cast

Out of twenty three scheduled Cast in Bihar, Musahar are the third highly populations after chamars and Dusads. But their literacy level is lowest among all dalits, i.e. just 4.6% (Census of India, 2001). They are held responsible for their educational backwardness and negatively portrayed in most literatures. It is widely believed that they are unable to understand the relevance of education, mentally not accustomed to accustomed school work, seen as attending schools only for midday meals, disinterested in formal schooling and steeped in a culture of silence. Apart from this some other factors such as, the indifferent attitude of parents to educate (particularly female child), poverty, unawareness and early marriage are also held accountable for their educational backwardness. (Narayan, 2002, Prasad, 1988, 1989, 2007, Prasad, 2005, Bajracharya ET.AL, 2006, HernandezET.AL,2008).

The above empirical review documents related to mathematics education has discussed the problem of multicultural and multilingual teaching and learning and other various western countries in particular. These documents show we always statistically analyze the result of students but not analyze how the result is poor. And also not the different factors which influence the teaching learning activities and learner's interest on learning mathematics with multicultural, multiracial and multilingual perspective.

Theoretical Review

This is a sub-section of literature review in which the research needs to associate the research agenda with the suitable theory. In this frame, I relate my research with the well-established theory so that I can get backup support. We associate our concept with early published inter-relation concept. So in my opinion, for my research agenda if I go through Vygotsky Social constructivism theory then it

will be good. I have selected these theories to introduce verifies of Musahar students in mathematics for that are first we need to change the classroom culture and their home environment. Here, classroom culture is used for involve the Musahar students and that environment is Musahar community.

Social Constructivism

A social constructivist approach influenced by Vygotsky's work emphasizes "the social contexts of learning and that knowledge is mutually built and constructed (Thakur, 2014). Vygotsky is the exponent person of this social constructivism theory. According to this theory, the human is social beings and so they can learn from society, peers. Students can learn effectively through interaction rather than just passively listening to the lecture from teacher's side. The key concepts of Vygotsky theory are MKO, ZPD and Scaffolding. One Vygotsky notion that has significant implications for peer collaboration is that of the zone of proximal development. ZPD is defined as the gap between the actual level of development and actual potential development as determined through problem solving under adult guidance of in collaboration with more capable peers (MKO). Through a process of 'scaffolding', a learner can be extended beyond the limitations of physical maturation to the extent that the development process lags behind the learning process (Vygotsky, 1978).

This theory plays vital role in my research because my aim for research is to use learning difficulties in classroom and community. I'm planning to use are peer work, group work, project work and etc. for that I need to from a group and for such activities social constructivism theory provide me insight to how can I manage group and maintain social environment bias free. Also, in group work, teachers need to just work as facilitator, coach and mediator. It means they can learn from their peers and

friends this is the concept of MKO and similarly, although they got confusion then we teachers need to help them this is the concept of ZPD and scaffolding.

Cultural Difference and Discontinuity Theory

The theoretical discussion is needed for the interaction to the finding of the study. There are many theories about learning and development of children culture difference and culture discontinuity theory is main supportive for learning mathematics to find the factors affecting mathematics achievement. So, here the researcher tried to discuss the theatrical understand of this theory.

In culture difference and culture discontinuity theory, Ogbu (2000) deals with the problems in children's learning caused by the difference and discontinuity between the culture of home and culture of school. He says that, those students whose home and school environment doesn't matched they face more obstacles in learning and they do not enough attention in their cultures and they have to hard work to achieving outcomes comparison to the children with culture or environment matched children.

He argues that, learning as not only the product of the culture and language difference but it is the relation between the culture and mainstream culture doesn't favor learning or schooling. The dominant group controls the school system in their curriculum and using their language. So, the children who are socially and culturally disadvantaged faced many difficulties in learning.

The research report attempts to describe the relation of Musahar as a marginalized minority cultures and dominant mainstream culture in the learning of mathematics.

Ogbu's analysis distinguished between levels of culture difference between majority and minority population. In some places, he spoke of universal, primary and secondary culture discontinuities between student backgrounds on one hand. And the

behavioral and performance are expectations of schools on the other. In other places, he speaks of primary and secondary cultural differences between minority student's cultural background and school cultures. In Ogbu's conceptualization, universal discontinuities are differences between home and school culture that occur for all students.

Ogbu, (2001) 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 the home, community and the style used in the school. Ogbu, (1982) argues that the primary secondary culture discontinuity also causes the difficulties in learning and he argues that the children from disadvantage caste tend to develop coping behavior and attitude that are different to school culture that affects their learning.

Ogbu, (2001) argues that the dominant group gets school system in accordance to their own convenience and benefits. E.g. their norms, value and aspirations in the curriculum and teaching learning approaches that suit to them. But dominated groups gets on unfamiliar and unrealistic curriculum and their cultural resources do not match with overall system. So, it is difficulty in learning and cause of failure, dropout. There are always dilemmas that the dominant group does not know or does not want to know about the cultures of subordinate group by saying difficult to know because of the multicultural existence of children in school/ society. It is just an escaping trend and nature of the dominant group, the higher caste people from including the subordinate group or disadvantage group into the mainstream. Similarly, although the subordinate groups know the culture of dominant group, they do not need to practice other's culture because their tradition does not let them to act like members of the dominant.

Ogbu, (2000) delineate about the cultural difference and culture discontinuity theory. That deal with the problems in children's learning caused by the differences 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 learning achievement. Similarly, the children with unmatched or dissimilar home cultures with school cultures and they do not have enough attention in their learning and do not get much recognition of their cultures and they have to work hard to achieve learning outcomes compared to the children with good matched. Ogbu furthermore argues that discontinuity is also occurred in the area of language, thought and measurement it happens mainly due to the difference in the home/ community which is informal education and the style used in school is formal education.

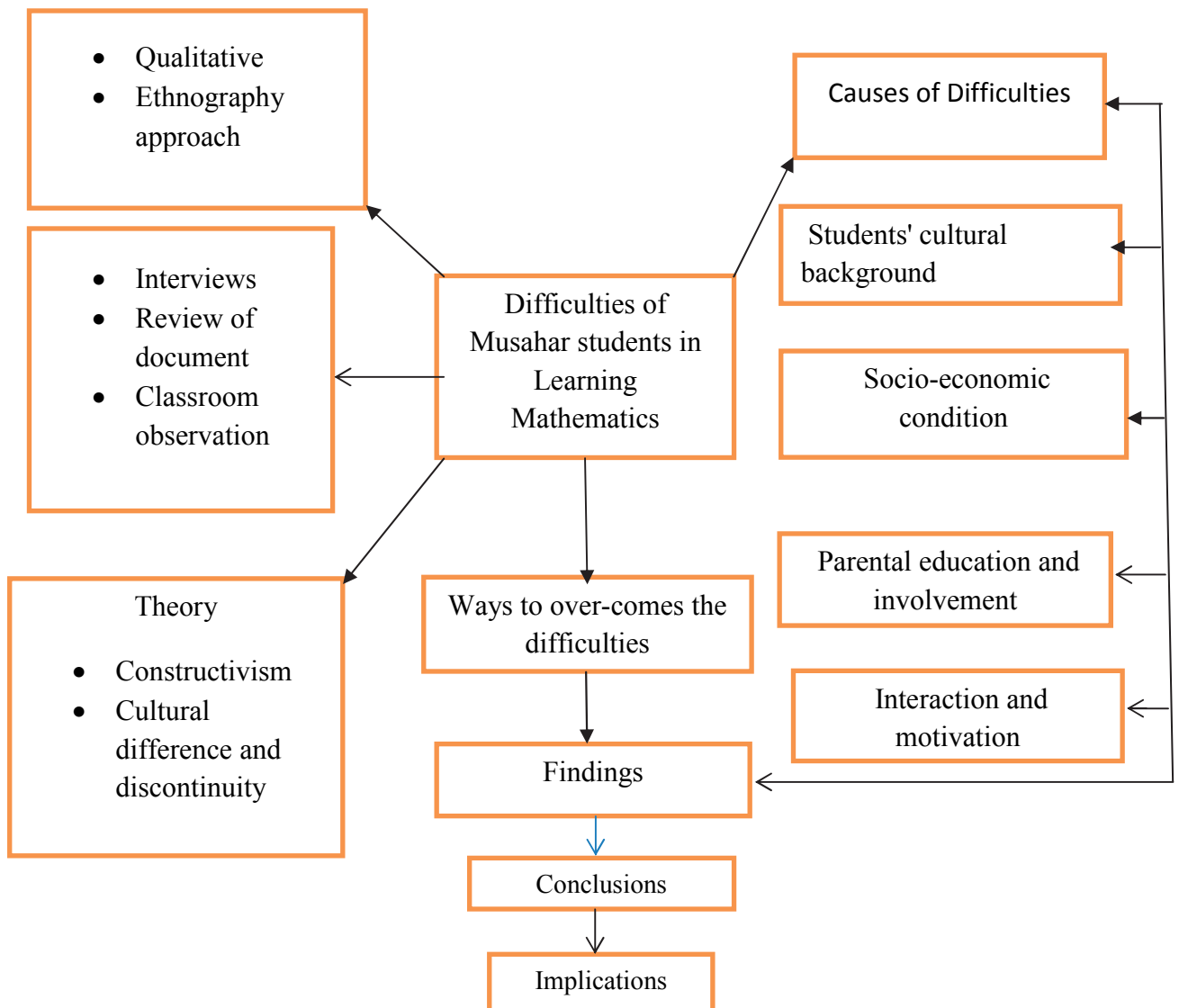
Culture is the distinctive patterns of ideas and norms that characterize the way of life and relation of society or group within a society. Finally, difference in teaching style and leaning strategies may be important relations that affect their learning. Sometimes it defined as "customs or tradition and considered to be natural and unchangeable".

Conceptual Framework

Different styles of learning and theories of learning are key literature of the study. So explains the factors as their interaction on the learning and results of Musahar students in mathematic.

This is research, to identify the learning difficulties of Musahar students in mathematics at basic level students. This research mainly based upon the cultural discontinuity and cultural difference theory. The following framework was proposed on the effective learning procedures to develop the new knowledge for Musahar students.

(Figure: Mathematics learning difficulties of basic level students)



The conceptual framework would be helpful in finding the causes of difficulties faced by students learning in mathematics. In-depth interview, Classroom observation and review of the documents were taken for the research tools. Constructivism, cultural and discontinuity theory were interlinked to justify the data in the thesis. It has shown the cause of difficulties on right side of figure and below them from the analysis and interpretation of data. Ways to over-comes the difficulties of Musahar students in learning mathematics. Then finding, conclusions and implications have shown respectively. This study examines the impact of support and intervention on difficulties in learning mathematics.

Chapter: III**RESEARCH 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 systematic. 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 interpret phenomenon in terms of meaning of people being to them. This research involve the study and collection of validity of empirical materials, cast 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, research took some major procedure for research methodology.

Design of the Study

This is a qualitative research. Research design is the most important part of the research. Research design is the plan which is developed before starting the research work. Therefore research is the base line of each preparation of design is needed to conduct in a proper way (Khanal, 2010). This research based on qualitative research design. The Research would be descriptive, exploratory nature. Qualitative research is form of inquiry that explores phenomena in their natural setting and to be used multi method to interpret, explain, understand, and bring meaning to them.

Ethnography

Ethnographic designs are qualitative research procedures for describing, analyze, and interpreting a culture-sharing group's shared patterns of behavior, beliefs and language that develop over time (Creswell, 2012).

An ethnographer researchers study about their common behavior and their mind set in social settings. To get rich information as an ethnographer research we need to have prolonged engagement with the participant so that we can observe their real practice of real beliefs about certain phenomena. Ethnography is the study of people in naturally occurring settings or 'fields' by means of methods which capture their social meanings and ordinary activities, involving the researcher participating directly in the setting, if not also the activities, in order to collect data in a systematic manner but without meaning being imposed on them externally (Brewer, 2000).

According to Creswell (2012), to conduct ethnography research at first we need to identify the participants i.e. from where we can relate our research problem, then we can to take permission of authority to conduct research, then to collect valid and reliable information we need to use appropriate data collection tools, then according to our design we need to analyze and interpret our data, and finally we need to write a report.

Ethnography means writing about exactly in their own meaning. Ethnography as it is fieldwork research; it involves the study of real life situation (Brewer, 2005). Field researchers, therefore, observe people in the settings in which they live, and participate in their day-to-day activities. It focuses on entire cultural groups (Creswell, 2007). Ethnographers are interested in documenting things like and shared attitudes, patterns of interaction, perspective and language of a group of people. It is a way of

studying a culture- sharing group as well as the final written product of that research as a process and outcomes (Acharya, 2017).

Site Selection

There are many ethnic (hundred twenty three casts) group in our country that is Musahar is once. There are Seventy seven districts and Seven Province in Nepal. Musahar people are live in mainly Province number two. But researcher selected the Saptary district. Musahar people live all side of Saptary district. This research selected the five government schools of Saptary district by random sampling which is Shree Kanchhu Nar Pratap Higher Secondary School. Raypur, Ma. Vi. Kataiya, Lower secondary school Khokshar, Lower secondary school Bispity, and Budhilal higher secondary school Kathauna.

In those school there are 138 students in grade VIII and 70 (45 boys and 25 girls) Musahar students. The site was focused due to the prevalence of use of Musahar culture, language and low literacy area. The researcher focused on Musahar students studying in basic level specially grade VIII. Grade VIII is the last classes of basic level (lower secondary also).

It was the most traditional stage of students for their mental, cognitive, physical and social development. Without being good foundation of basic level education no children progress in secondary education. It has its own significant to know about the consequently of the exam of district level and SLC.

Sample

The sample size of this research is 5 Musahar students, 2 head teachers, 2 mathematics teachers and 5 parents. The sample of this research is musahar students, their parents, teachers and head teacher. The research site is Raypur, kataiya, Khokshar, Bispity and Kathauna in main of Saptary district. In this place the

researcher choose only five schools for this research by random sampling. This research is focus on Musahar students specially studying in grade VIII.

Sampling

There is the qualitative research. In this research the researcher used purposive sampling. A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Purposive sampling is also known as judgment, selective, or subjective sampling.

Tools for the Study

For this study, the researcher has used the following tools to collect the information (Review of document, Semi-structure interview and observation form).

Observation Form

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

As a data gathering device direct observation makes an important contribution to research. Observation may be participant and non-participant. Participant observation is that in which the observer is familiar and participants with the objective of study. Observation is the process of recognizing and noting people, object and occurrence rather than asking for information. The researcher included the case student's behavior with teachers, attitude towards teachers and peers, relation with mathematics teachers, head teacher and peers, participation of case students in group and individuals, homework, classwork, teacher activity 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-E.

Interview

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).

The data from interviews consists of direct question from people about their experiences, opinions, feeling and knowledge. In my interview, I used guideline to make the interview more focused on the subject of investigation. In the first meeting with the respondents, I appeared information. However, since they all knew about my purpose or talking with them and the visits, it did not take long to engage us into discussion. After eight days of home visit (each participant children's) I interviewed with their parents. Similarly, after class observation I interviewed with mathematics teachers of those students. Then I interviewed with headmaster about the Musahar students and their Mathematics learning.

Review of the document

The review of the documents is an approach, which researchers use to gain a detail understanding of the setting through analyzing the content of the fiving document. Document analysis as an inquiry, which review yield excerpts, quotations or entire passage from records; memorandum, publication and reports (kahn, 1996 as cited in Ghimire 2013).

Obviously, Review of relevant literatures give better understanding of related topic. Students attendance register, school result sheet, teacher's profile, teacher files of school and other records were reviewed for this study.

Data Collection Procedure

The research spent four weeks (i.e.28 days) for the observation in research area. The following procedures for collecting were followed for this study:

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

Similarly, separated interview was also conducted with mathematics teacher, head teacher and parents of each respondent by using interview guideline (Appendix-B, Appendix-C, Appendix-D and Appendix-E) respectively.

Similarly, views of dead teacher towards the respondents were taken separated. Also frequent interaction was conducted with the parents, teacher

and the respondents. Ultimately, the researcher prepared the individual respondent records separately.

- The unpublished documents like school record files, attendance register, school result sheet, teacher profile, obtained marks sheets of respondents from VIII classes, scholarship scheme register of Musahar students were studied thoroughly to collect secondary information from the school.

Data Analysis and Interpretation Procedure

The data analysis and interpretation is the process of systematic searching and arranging information from the tool such as semi-structured interviews and observation. Data interpretation is the systematic process of presenting and showing effect. The analysis of the data is important thing while I was preparing research report. In this research primary data presentation and analyze. The data and information was collected from semi-structured interviews and observation then the researcher grouped the information according to different categories such as educational background of the family reading time at home, family economics condition, relationship with teacher and Musahar students, facility of practice book, book and tuition, language problem, doing class work and homework, different problem faced in classroom, difficult subject matter, teaching strategies, problem in teaching mathematics, area of difficulties in teaching mathematics, techniques to use minimize the problem in class. After collecting data the researcher analyzed and interprets these data. After coding and organizing the data in table and find the percentage of these data. The quality standards of the result would be maintained by cross matching them.

Recently, the word 'triangulation' has been used widely in the discussion of qualitative research. Triangulation is a method to get an accurate and reliable picture

of situation. The idea to assess learning and attitudes from a range of perspective is called triangulation. The researcher was trying to understand by collecting 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

The study related to causes of learning difficulties of Musahar students at grade VIII of Rupani manipulation of Saptary district. The main objective of this study is to find the learning strategies of Musahar students, to explore the difficulties of Musahar students to learning mathematics and to explore the way forward problem faced by learning mathematics of Musahar students. The main tools used for this study were interview schedules, observation form and review of documents. The main respondents of this study were focused on children, parent, head teacher and mathematics teachers of grade VIII of the school. Only five schools were 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 relation, gender discrimination, irregularity, lack of parental involvement in the school, lack of believe and support and teaching method. The collection 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. The 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 school. 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:

Causes of Difficulties Faced by the Musahar Students in Learning Mathematics

- Teaching learning process
- 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

Introduction of Case Students

Responder-A

Responder-A was of fourteen years of boy and he studies in class 5. He was born in Rupani VDC ward No: 1 of Saptary district. It takes about 15 minutes to go to school from his home. There are eight members in his family. In comparison with other Musahar families, his family seemed little bit small. His father is Rickshaw Driver and the mother is housewife. Sometimes his mother goes to forest to bring daura and selling the Hatiya. She earns some money and helps the family.

From this research, it seems that his family was backward in economic condition as well as in education. Before the school time, he was busy in works in home and in leisure time he was busy in playing cricket. His guardians were very

careless about his study. He felt that mathematics was very hard subject. He did not complete his homework. Due to poverty, he was unable to take tuition class. When the researcher was in his house, he said, "I felt difficulties in learning mathematics because there were no other higher education people to teach mathematics". He said, "Hum hisab nai samjhaichiyai (i.e. in English: I could not understand mathematics.)"

Responder-B

Responder-B, one of the Musahar girl students, studying in class 7, is thirteen years old. She got fourth position in class 7. However, she likes Nepali and Social study subject but she does not like Mathematics, Science and English. She is one of the talented students of that school and she takes participate in extracurricular activities. But due to her poor economic condition of her family, she did not spend more time in study. Also she does not practice mathematics problems at home due to lack of time. Her mother is housewife and her mother also works in the field of other person as a worker. Her father is a labor in building construction.

The researcher also found that she regularly participated in extracurricular activity in the school and most of time she own the first prize. The research also found that she was regular in taking class. However, sometimes, she missed the class because of her household works. She was also punctual in taking class. She wanted to try to do mathematics homework but she rarely completed mathematics problems because she did not have enough time to do homework.

Responder-C

Responder-C was thirteen years old girl studying in class 8. She was born Raypur VDC-2 of Saptary district. She has six family members in her family. In her family she is elder child of their parents. When researcher observed her house and family, he found that their economic condition to be very poor. The researcher found

that as she is the elder child of her family, she always engaged herself in household works. So, she did not enough time to do mathematics practices at home.

Her family's main source of income comes from the labor of factory. She was interested in study but she was not the time to mathematics practices. She said, "our economic condition is very poor." She was 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 home work 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."

Responder-D

Responder-D was fourteen years old girl studying in class 8. She was born in Khokshar VDC-2, Saptary district. As a member from joint family, she had ten members in her family. She was elder daughter in her family. Her family's economic condition was not good. Her father was in India for earning money. Her mother was housewife and the sometime work the field. Her family was poor in economic condition.

She has been average in study and she showed some interest in her study but due to insufficient time, she could not practice mathematics and do other homework. Mathematics teacher said, "she tries to do homework but commits mistakes while doing due to lack of guidance." She has only the best friend her own caste. She said that her friends had already married. She was quite aged among her friends and due to that she felt quite uneasy with her classmates. Her mother said, "Due to joint family, she had little space to get adjusted and had to pay more attention to her to younger

sister, who obstructed her study." When the researcher observed the class, she rarely interacted in the class and shares her opinions with teachers. She said that teachers also did not 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 were more conscious about her marriage rather than continuing her study.

Respondent-E

Respondent-E was thirteen years old boy, one of the Musahar student of class 8. He was one of the top fifteen students of class 8. He had six family members. His mother was housewife and father was labor of construction. Being the first child of his parents, sometime his mother bought wood from Rupani forest and sold to earn some money. He also helped his mother to bring firewood, so he had not enough time to study but he is a laborious student and labored hard. His favorite subject was mathematics but did not much practice due to lack of time. His parent did not have any awareness to teach the children. The researcher found that there was no anxiety about their children's education. He did not want to male friendship with naughty children who didn't read carefully and dropping out the school. According to the school 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 had no time to study at home. When the researcher observed the class, the researcher found most of the places fully captured by the upper caste student. He said that discrimination of untouchable prevails more in society and also in school. In society, upper caste children were not given chance to meet, play, eat and sit together with the lower castes by their parents.

Introduction of Case Head Teacher

Responder-A

Responder-A was the head teacher of Shree Kanchhu Nar Pratap secondary school Raypur, Saptary. He was fifty one years old and he was good mathematics teacher also. He said, The Musahar students are not attending all day in the classroom. Their parents don't visit school and try to know about them education. They don't care the uniform, books and personal activity. The Musahar students use the smoking, use the win and not preparation the class work and homework. They are not use the time in classes and not participant the any school program and function.

Responder-B

Responder B was the head teacher of Shree Budhilal Higher secondary school Bhagawatpur, Saptary. This school is model of Saptary and top of Saptary. The head teacher is fifty four years old and he was good management in that school. He said, the Musahar students are attending but not the participant the classroom activity. Their parents don't visit school and try to know about them education. They use the smoking after the classroom. They are not participant the any one function and the classroom activity.

Introduction of Case Mathematics Teachers

Responder-A

Responder A was the mathematical teacher of Shree Kanchhu Nar Pratap Higher Secondary school Raypur, Saptary. He is 25 years old and many experience teacher. He said, The Musahar student is not the participation of any class interaction. He absent the mathematics classes and not do homework and class work. They used smoking and win before classroom and not value the teachers. Commonly Musahar students are poor and not educated so they are not interested in study in mathematics.

Responder-B

Responder B was the mathematical teacher of secondary school Bispiti, Saptary. He is 52 years old and head teacher also. He said, the Musahar students some are weak and some are medium student of the school. Some are do homework and class work but some students are not attending all day. The students are working the field as school time and their economics and culture background are poor and continuously then their students are not achieve the mathematics subject. Generally, Musahar students are absent in mathematics classes because their students are not help of other person and any tuition of mathematics in home so students are not interested in mathematics subjects.

Introduction of Case Parents

Responder-A

Responder-A is forty five years old parents of Shree Kanchhu Nar Pratap Higher secondary school's student. He belongs to poor family and not educated in their community. He is not interested as education because their family background is uneducated and economic condition, their community and life style is different than another community or developed community. He said, Education is not important for us their main important s are food, cloth and lived place. Their main weakness is, they use the win and smoking all family persons so they are not achieved the good economics. They earn money and spend the win and smoking so their economic condition is poor.

Responder-B

Responder-B is thirty two years old and wealthy man. He is five family members' three men and two women and their four members are uneducated and his son is read in class eight. His concept is wine and smoking is good life for our

community. He said, Working the field is main work of our life so he not the interested the educational system. He has not good economics condition so not invest the education and spend the tuitions. Their economics condition is poor and different social activity of their community and other community. He spends the all money in wine and smoking so their culture and economic condition are poor. Their concept is education is not the important for us then they have not invested the education and any tuition fee so their student is not interested in educational system.

Responder-C

Responder-C is the thirty nine years old and his family background is good and educated for other Musahar community. There are five family members in his family that are all educated these parents are six class one daughter and son nine class and one son is eight class. He is leader of the Musahar community and invests the educational system for his family member. He also uses the wine and smoking but their smoking is limited so their family condition is good for other of Musahar community. His concept is educational system is good and invest the education and his main aim is his son work in Governmental job.

Responder-D

Responder-D is forty three years old and his family background is medium. There are eight members in his family and their economic condition and education system is weakness and poor condition. He is not interested in education because their economic condition is very poor and not educated family. Their family members are, three small baby, one of read in class eight and big son and daughter of low and house band and wife. They are using the wine and smoking also. They do the work and spend the all money in wine and smoking. They have no time for his son and daughter

in that their school so their education is very poor. His concept is education is not use for us so he is not investing the education.

Responder-E

Responder-E is Forty two years old and wealthy man. He is five family members' three men and two women and their four members are uneducated and his son is read in class eight. His concept is wine and smoking is good life for our community. He said, Working the field is main work of our life so he not the interested the educational system. He has not good economics condition so not invest the education and spend the tuitions. Their economics condition is poor and different social activity of their community and other community. He spends the all money in wine and smoking so their culture and economic condition are poor. Their concept is education is not the important for us then they have not invested the education and any tuition fee so their student is not interested in educational system.

Finally, all the parents' view is same. The Musahar community of all activity, culture and social activity is same and continuous process. They do the work in the field and spend the all money in wine and smoking. They are not interested the school and education only work the field and use the wine and smoking.

Section I: Mathematics Learning Strategies of Musahar Students

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. The way of teacher directly

effect on the learning mathematics of the students-teacher behavior teaching methods practical application of the subject of teaching learning methods.

In these study teacher-students interaction means the relation of Musahar students with mathematics teachers, Head teacher and other students of the 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 Sir. In case of respondent-A is afraid of asking question to teacher. He feels problems to ask question in the class due to his improper language that the teacher don't understood and became angry. Musahar 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 entered in to the class with the teaching materials and researcher also entered in the class with him. He had started to teach. He wrote the topic construction of 'rectangle having a diagonal 6cm and the angle between the diagonals 60degree.' 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, hum hishab nai samajhichiyai." Teacher said if you want to ask question to me, ask in Nepali language. Do not use your language. The student was quite serious. Teacher constructed a rectangle on the blackboard using geometry box. Then, teacher asked some questions with other students. But Musahar students didn't get such opportunity in the class. They were sitting in the last bench and seem to be silent. He further constructs another rectangle. Teacher asked with student, "Did you construct

rectangle?" One of the student said, "Nai Sir!" Teacher did not care him. The class was finished and the teacher gave homework for remaining questions.

From the above classroom activities, the researcher found that the Musahar student often remain silent , frustrated and hesitated to take part in learning activities because of the lack prerequisites knowledge of related chapter. The children generally were afraid of asking question to the teacher. They felt problems to asked question in the class sue to his language that the teacher didn't understand and became angry. Musahar 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 Musahar student in mathematics classroom. it shows that the culture of home also creates difficulties for learning mathematic. So, interaction also plays vital role in learning mathematics, which creates difficulties.

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.

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 be behave, how to respect elders, how to co-operate to each other. Home environment play a vital role in learning. Home environment refers to occupation, economic condition and learning opportunity if the students 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 students, extra

classes provided, dominance of language and culture dominance are the major aspects of school environment.

Musahar 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 household there is micro culture which is discontinued in school culture. There is the gap between silence culture and forward culture. Home environment is affected by everyday life of all individuals.

Culture is as the totality of socially transmitted behavior, patterns, arts, beliefs, institutions and all other products of human work and thought as well as the total of inherited ideas, beliefs, values and knowledge which constitute the shared bases of social action. In a sense, culture is related to the development of the mentality, which people follow during their life in their learning activities. There are many cultural issues in teaching and learning mathematics in the context of Nepal.

"We don't have basic things in our house, how long we go on this way. We are on 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. Musahar students have not obtained such facility at home. One of the respondents expressed as;

"Our parents forced us to stay in the house and work, making mar (Gonaire), carrying firewood, Kharahi. They said making Gonaire and work the field are our main occupation. Parents said, "You engage in carrying patten and making Gonaire and work the field with it rather than going to school."

The above view indicated that children of Musahar community had no sufficient time at home for practice. They have to be engaged to solve their economic problems. Mathematics needs more practice to achieve the good marks. Musahar children have not obtained such facilities.

Musahar students did not get support to learn mathematics. The researcher found that respondents A, B, C, D and E had to be engaged in household works. They did not have time to study at home. Due to these responses, they were always absent in school. Teachers didn't ask this type of student about their home environment. At home, they learned by observing and doing things side by side. But they did not get chances as such in school. The everyday lives of Musahar student in home and school practice have been different. In school, they get theoretical knowledge like they have to use theorem to solve different problems. But they work in their home making Gonaire, Patiya, and using hand ekbita, ek hat and ekgaj etc. Also they have to rely on traditional units (mana/ pathi, paseri, Muthi, Bita etc.) which is used everywhere in the society. These continuities between everyday life and school practice make Musahar students feel complicated on learning mathematics. So they felt difficulties to learn mathematics simple problems like algebra function, word problems, geometry, construction of angles parallel line, parallelogram, triangle are main difficulties. Ogbu, (2001) theory argued that due to the cultural discontinuous between home and school Musahar students felt difficulties in learning mathematics. Due to some of the cultural discontinuities between home and school, the things have not been supportive for the learning mathematics for Musahar students.

The students leave their own family culture outside the school and enter the school that is different from their home culture. Because of this difference in the home and school culture, many students struggle to learn mathematics that is even

more decontextualize from their community and society. In Nepalese classrooms, these issues are the issue of inequity, inequality, gender issue and the issue of native language, issues of ethnicity, and the issues of traditional curriculum. So, they are all cultural matters that are more or less linked with social and political aspects too.

Finally, researcher found that culture of Musahar students at home and schools were unmatched. So, the Musahar students failed in mathematics. The home and school environment of Musahar students were not favorable for learning mathematics.

Parental Involvement in the School

Respondents' parents did not frequently visit the school. They did not visit school in any functions and any time with any comments on teachers' side and their children's side about the educational materials. In a study by Keith and Keith, (1993), they found that family from all socio-economic levels should be involved with the children's educations at home. However, families with of higher socio-economic status tended to be more involved at school.

An interview with head teacher revealed that respondent's parents rarely visited their children's school not even once a year and never tried to know about their educational status. Parents of one of the respondents spoke out outright that the school should be responsible for their children and parents further expressed that, they even don't know their teachers and even don't have enough time to allocate to visit the 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. Parent who motivated their children to read and

learn and provided them with extra material and books at home had positive effects upon their children's learning. Parents and teacher meeting concluded in the school that lack of presence of Musahar student clearly signifies that teachers seemed less responsible towards Musahar 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. Concerning the learning opportunity for the children at school and at home, learning environment was not conducive for learning mathematics.

Studies have shown that parental involvement directly affects their children mathematics achievement (Sender and Sheldon, 2009, Yan and Lin, 2005). Students with parents are involved in their education are more likely to perform better in mathematics and achieve more than other students. Sirvani (2007) agrees with this and claims that parental involvement contributes significantly to the achievement of both primary and lower 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 more than children, the better results we have in mathematics achievement.

Section II: Difficulties Faced by Musahar Students in Learning Mathematics

Parent Education and Economic Condition

Musahar are always kept far from opportunity by the state. Most of the Musahar people of parental generation are uneducated and their economic condition is poor. They could not fulfill the needs of family. Musahars are uneducated person due to the lack of knowledge. They don't know about the important of education. So they are engaged in farming and household works. As a result, their children are also engaged in the same works like making Gonaire, 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. Musahar children learn and develop copy with situation and task and particularly method of civilizing style to the best situation. For the example, most of Musahar 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, meter, centimeter, etc. measuring instruments like protector, scale, compass etc. There are discontinuities between traditional practices and modern practices. Hence, according to the theory of culture discontinuities, there are discontinuities between home and school environment. So Musahar student felt difficulties in learning mathematics.

The researcher asked Musahar students' parents, mathematic teachers and Head teacher on the topic. "How does parents' education and income affect their children's education?"

- Education has no special significance for daughter since they have to do the household works after marriage." (parents)
- "I think this education would not play vital role in individual's learning. I expect my son could take some occupation as soon as possible by leaving school. It would be far better if he can join making shoe or any other words." (parents)
- "We can't afford for the education because our income is low for food and clothing."(parents)
- "I am illiterate and the children do their homework themselves at home."(parents)
- "'We have to go to work to earn money for food, clothing and education."(students)

- "My parents can't afford to pay for school fee, tuition fee." (students)
- "Musahar parents are often illiterate hence they don't show concern about their children's education. They don't take part in conference because of illiteracy. Parents' awareness about education of their children is the major factor to improve their children's study."(Mathematics Teacher)
- "Musahar students have to earn pocket money themselves. So they focus on wage-earning jobs rather than study."(Head Teacher)

From the above views, the research found that the Musahar students failed in final examination in mathematics because of the extreme poverty they faced in everyday life. Most of the Musahar students have faced difficulties for hand-to-mouth problem. So, Musahar students didn't do their homework regularly. Due to lack of guidance of parents and sufficient time at home for mathematics practices, they became weak in mathematics.

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 these beliefs, sons are given and daughters are kept within the four walls of house. Specially, Musahars face discrimination although son and daughter are uneducated.

The researcher found that in Musahar 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. Musahar women are forced to accept discrimination and differences. Musahar 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 daughters mostly do household works. It is her duty to finish all the works of house.

"Education has no use especially in daughter's life since they have to do the household works after marriage." (Parent's View)

"I think this education is not for us. We are poor people and our children cannot 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. Therefore, I expect some occupation for our children as soon as possible without getting higher education. It would be better if they can join farming." (Parents View)

"I think education has no great significance. So I don't send our children to the school. Moreover, our girl children generally have to work indoor in our community. Another thing is that the girls are not allowed to do outdoor activities. There is an inborn concept about the girls that they should not be sent in the outdoor activities because they cannot do. So think that girls would do only household activities outside the home." (Parent's View)

"According to the views of the Musahar parents, it is clear that the parents hold discriminatory attitude towards their daughter. They encourage their sons more than daughter for study. That is one of the causes behind difficulties faced by Musahar students in learning mathematics. But we never discriminate between boys and girls in school." (Mathematics teacher)

From the above responses, there is psychological factor which has greatly contributed to the learning difficulties of Musahar students. The Musahar parents have been convinced that education cannot do any good to their children. This has prevented them from building up their confidence. This ultimately affects their children's performance level in mathematics. The social practices that encourage

people to send the daughters to household to work and sons to playground are the outcomes of the system that unequally ensure discrimination between sons and daughters. Even though this practice is prevalent in other communities in our society as well, it is rampant in Musahar community as they lack awareness have been suffering from extreme poverty. So, Musahar parents and guardians fail to motivationally encourage their daughters in learning process.

There is extreme form of illiteracy and ignorance Musahar community. This has prevented them from changing their mindset. So, they have strictly followed and continued social practices. The sons get inheritance right to the paternal/maternal properties whereas daughters are considered as an 'object' for giving away to other people's houses for domestic work. Sons are regarded as important family supporter; on the other hand, daughters are regarded as the workers to be engaged in their husbands' home. Such behavior of parents creates much difficulty in learning process of mathematics for Musahar students. Although the parents give more importance to boys than the girls, they have not shown much interest for their son's study, which has caused difficulties in learning mathematics. On the whole, the parents think that their children cannot achieve anything such as getting job or any good work, which makes them feel that education holds no significance in their children's lives. The mathematics teacher remarked that even though the Musahar parents had discriminatory attitude towards Musahar and other children and males and females, mathematics teachers tread every student equally and impartially in the school.

Support and Belief

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

Although some of the respondents were found to be interested to go to work, they were frequently absent at school. Students think school learning can't support and improve their daily life. For example, one high school graduate candidate from Musahar community is not involved in any good occupation. So, the parents encourage children to engage their children in their own parental occupation like shoe making, Gonaire making, Dalo making and labor activities. This dogmatic and traditional thought leads children to develop inferiority complex and it makes prone to them as lacking confidence in solving technical subject like mathematics.

Government and non-government agencies didn't provide scholarship to the respondents. They didn't get any financial supports and or other educational support and incentives from any agencies. While observing all this, the researcher found that school didn't have the provision to support students providing scholarship and boost their mortality. It is not only due to ignorance, but also due to annoyance, parents feel extra burden to provide school dress and educational material to their children and school has also overlooked such problems which has somehow deteriorated their mentally whether to continue their education or not. Resultantly, the students feel inferior among their peer groups and can't make progress in their education due to

lack of concentration in subject matter. In this way, it is the next determining difficulty in learning mathematics for Musahar students.

Teaching Learning Process

Teaching learning process is the major factor in learning mathematics. Teacher's education, experiences and expertise determine the teachers' qualification. Mathematics is a practical subject. It can be solved by different process and techniques. The way the teacher directly makes effort on the mathematical teaching the students' behaviors, teaching method, practical application of the subject of teaching learning methods are various forms of teaching learning process.

The experienced teacher makes him/her student to understand things in simple and clear way. A trained teacher can attract and motivate the students towards the mathematics with the help of different teaching skills regarding teaching learning process. A trained teacher can rightly and appropriately the teaching material and makes the teaching easy and interesting. As mathematics is practical subject, its use of teaching materials 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 being used such as discovery, problem solving, discussion, experimental etc.

When the researcher visited in the field, he found that the mathematics teacher has experienced for five years. There was no problem on the part of mathematics teacher. But there was problem of teaching materials because this school is situated in rural place.

"I after used student centered as well as explained the problems steps by steps. But school has problems of availability 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 shows that there are some problems regarding the use of appropriate methods, lack of teaching materials and teacher's knowledge of teaching method.

Interest of learning influences the teaching learning strategies, achievement strategy and achievement of students. When man grows up 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 students regard mathematics as a hard subject, they can't solve the problems and they don't take more time for this subject. "I feel mathematics is a hard subject because of lack of practice. I mostly do household words at least 4-5 hours per day." (Student's view)

"They believed that mathematics is a difficult subject. This belief prevented them from taking a general concept on the mathematics as a subject." (Mathematic Teacher)

The interview with the students problems proves that even though the Musahar students told that their poor performance in mathematics has resulted due to lack of practice at home, it is the psychological fear which has really made mathematics a difficult subject. So, the mathematics agrees with this view that fear has prevented the Musahar students from taking a simplistic or general view on the mathematics as a subject in the school.

Language

Language is the most of essential affecting factor for failure of Musahar students in mathematics. It is the great medium of human civilization which sets them apart from the other living beings. Language is a system of communication medium for thought. It is the measure component for learning. When the researcher observed a class, it was found that there is language misunderstanding between teacher and Musahar students. Musahar student usually used informal (mother tongue) language but their teacher and friends didn't speak about it. The teacher and other students wanted Musahar students to speak formal respected language. Because of this cause, the relation between teacher and musahar student and their friend has not been good. From the class observation, the researcher found that Musahar 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 Nepali bole nai abaichhai. Sarobolaichhai, padhai chhai ta naibujgaichiyai." Also he said, "our parents at home frequently speak Maithili language but they don't use Nepali language. 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."

Musahar students 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 students. That causes they are failure in mathematics in the final examination."

(Mathematics teacher)

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

language problem understanding the mathematical process and concepts for the Musahar students.

Episode

"In the observed class, mathematics teacher went to the class and then after the researcher also entered in the class, with him entire students stood up and said good morning Sir! The teacher also wished good morning and to sit down. It was notice that the school environment has taught them about the respect for the teacher. There were sixty five student s in the class. Teacher took the attendance of the students. There were fifty two students present on that day. Teacher said, "Open your text book, please" and he wrote the topic indices. He wrote a problem on the blackboard and solved that. 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 lesion or not. Some students said, "Yes Sir "but one of the Musahar student asked with teacher in own language. Teacher didn't understand his language and teacher asked him, "What do you mean?" and also said to do not use your own language; it is school not your home. After this student, other musahar students did not try to ask again about their problem. They got much depressed and sit on the bench. Again the teacher repeated the problems on the blackboard and the situation was the same. Then the class is finished.

From the above classroom observation, the activity of mathematics teacher and Musahar students showed that, Musahar students use their own language in school and but teacher use Nepali language in classroom but teacher could not understand their language. There is language problem between teacher and Musahar students. It is the main problem for learning mathematics to Musahar student. This

also matches with theory of discontinuity by Ogbu, (2001). Hence, it is concluded that language creates the difficulties in learning mathematics.

Irregularity

Irregularly is one of the main problems of Musahar students in learning mathematics. They are compelled to attend their school after the completion of their household works. The school is their second priority because their first priority is to manage food for survival. They have to engage in carrying firewood, Patteri, Kharahi from nearer forest and working at other houses. It shows that they are usually irregular in their school. From the data provided by the school, 5 Musahar students in mathematics were found as follows from the table:

Table: Attendance

Name of Respondents	Attendance day (in a month)
Rajesh sada	13
Gopalkumarsada	17
Resamisada	12
Mukesh Ram	9
Rajani kumara Ram	13

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 feel difficulties in learning mathematics.

"I am not regular in the class at school due to household works. I can't understand some lessons of the missed classes. Other cause behind not understanding the lesson is language. Due to these reasons, I can't solve and complete assignment given to me in the school. There are many members at home but a few members are capable of

earning. It is very difficult to survive in life. We have to face difficulty in buying books and copies. Then, I am afraid of getting punishment and give up the desire of going to school." (Student)

"It is so difficult for each student to perform well due 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 of students has also created problems and they can't proceed forward in learning. Thus, Musahar Students feel that mathematics is very hard subject." (Mathematics teacher)

"There is great impact in learning mathematics because of their frequent absence; we made great effort to make them regular in the class but we could not succeed completely. The main reason behind is that Musahar parents are uneducated, lack positive concept towards education and poor economic condition are the factors which have played big role in the irregularity of the Musahar 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 of Musahar student and the head teacher, the researcher concluded that there is vast irregularity of the Musahar students in the classes. One of the reasons behind the difficulty is that students have not been punctual as they have to work for livelihood. The student said that as there are many family members in his family, it is very difficult to manage food for survival. This justifies that there is a great problem in learning mathematics. The study also shows that many Musahar students have lost their interest to go to school because of poverty. In this regard, the mathematics teacher also accepted the fact that the low economic condition, work load at home, language and fear of punishment from teacher caused

the students' unpunctuality in the class at school. Therefore, such irregularities have created the great obstacles in learning mathematics. Similarly, the head teacher agreed with the mathematics teacher that unless the Musahar students were regular in the class, their performance would never improve.

Section III: Way forwards Problem Faced by Mathematics Learning of Musahar Students

Creating Good Learning Environment

Environment is the big component of learning mathematics of the Musahar students. There are different environment of Nepal. So, for making healthy environment inside class we must have focus on these important issues so that students from musahar community can feel their ownership in learning and want to involve in all activities done inside or outside of class. In this regard, one of the teachers opines.

"Mostly I teach in Nepali language. But there are multilingual students in the classroom. I feel that some students who come from musahar community cannot understand the subject matter easily. They ask me questions many times. Sometimes, they feel embarrassed to ask questions in Nepali language. Therefore, I attempt to my language so that they can easily understand in the classroom."

From the above data, I realized that language was a major barrier faced by the teachers as a medium of instruction in the multicultural classroom situation. The teachers were not competent in multi-language as spoken by the musahar students as their mother tongues. Therefore, it seems to me that the learning environment as the vital role of learning mathematics of musahar students.

Good Educational and Economical conditions of Parents

The good educational and economical statuses of parents are the big component of Musahar students in learning mathematics. The Musahar family background, if the educated or good economics family then there family students are good and other family are poor then these students are learning activity of mathematics are poor. In this regard, one of the teachers opines,

"Musahar students have economic problems they are not good dressing or not the all books or copy. Their family are poor and not developed so their students are not try the tuition or try the homework, which creates difficulty in understanding in learning mathematics in comparison to other students. That causes they are failure in mathematics in the final examination."

From the above information I conclude that, education and economic status of parents is the main part of musahar students in learning mathematics. Whose family background is educated or good economics status of parents their students are good and whose family background is poor and not educated their students are poor in learning mathematics. So, good education and economic status of parents is the achievement of musahar students in learning mathematics.

Use of Local Language for Teaching Learning Mathematics

As we know language play vital role in teaching learning. Literacy rate of mushar community is very low so that they face many problems during learning due to languages. If we create language friendly environment for them, then they got actual what we as teacher want to deliver to them and it is only possible if we teach them in their language and so that they feel their ownership in learning mathematics. They start thinking that mathematics is not out there it is something inside their society.

"Mostly I use the Nepali language in the classroom but there are many problems of language in musahar students. Musahar students use the only mother tongue language so these students face the difficulties in learning mathematics. There are different students whose mother tongues are different so, I use the Nepali language. Local language is most important in the learning mathematics."(mathematic teacher)

From the above information I conclude that, local language is the most important of learning mathematics of musahar students. There are many problems of language as the learning mathematics. Different students use the different mother tongues so that increase the difficulty of learning mathematics of musahar students.

Chapter-V

FINDINGS, CONCLUSIONS AND IMPLICATIONS

This chapter deals with the findings from the discussion of chapter and conclusion and implications for further study. In this chapter, it includes the finding of the entire researcher work.

Finding of the Study

From this case study, the causes of the difficulties faced by Musahar students in learning mathematics are found in the following major points:

- Musahar 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 simple livelihood.
- Because of the economic condition and lack of positive concept about the education of their parents, the students are irregular in the school.
- There is a discriminatory behavior between son and daughter.
- There is lack of interpersonal relation between Musahar student and mathematics teacher and other students in class.
- There is a discontinuity between practice of mathematical concept at home and school.
- Musahar students have used their mother tongue at home and Nepali language as the second language which is never used in his/her home. There is language discontinuity at home and in school.
- The school has not provided scholarship and financial aid to Musahar students who were economically and most talented.

- Lack of parents-teacher meeting is also another problem. There are highly qualified teachers but not aware about it.
- Home environment, language, economic condition, irregularity in the school and interpersonal relations are the major difficulties in learning mathematics of Musahar student.

Conclusions

Regarding the conclusion, the researcher derived from the field works in Shree Kanchhu Nar pratap higher secondary school, Budhilal higher secondary school. Kataiya secondary school, Bishapitti secondary school and Khokshar lower secondary school Saptary that Musahar students are medium in numbers in the school but low numbers of students passed in class-VIII examination. Most of them failed in mathematics subjects as they were mostly absent in the class. According to mathematics teacher, Musahar students are poorer than other students in learning mathematics. Language plays the vital role in learning mathematics. Due to lack of proper understanding of the language, it has created the difficulties in learning mathematics, The culture also play vital role in learning mathematics. Due to unmatched culture at home and school, students' difficulty level has arisen in learning mathematics, The learning environments play vital role in better performance in learning mathematics. The lack of proper environment al school has created the difficulties in learning mathematics and the economic condition of the parents has been poor. In addition, there has not been favorable learning environment for students at home; and there has been no awareness program of parents. Students have not been provided any extra classes in the school.

Implications

My research will be significant to promote by learning difficulties of musahar students in mathematics of lower secondary level students. Musahar parents don't take much interest in how their children are learning. They should be aware about improving the education of their children. To raise the mathematics achievement of Musahar student, different awareness and opportunity should be made available. This research is not complete research. There is limitation of this research. However, after the analysis and conclusion of the study, the research has made the following implications for further study to validate the findings of the present study. In addition with this the research will be implied in different aspects.

Policy Implication

Policy implications refer to imply research findings and recommendations in policy making and implementing process. My research will be helpful for policy maker in the following ways;

- To develop learning mathematics of musahar students.
- To make effective teacher training policy and its implementation for novice teachers in the context of Nepal as various language.
- To help teaching learning theory use for lower secondary level in local language.
- To help the subject makers for researching field.

Pedagogical Implications

Pedagogical implications concern with the methods and strategies of teaching and learning mathematics. Specially, for school level teacher my research will be useful in following ways;

- To apply various language and strategies in learning mathematics in lower level musahar students.
- To promote the research areas for musahar students.
- To develop imaging, thinking, understanding and discovering power of musahar students.

Implication for myself for Professional Development

To become responsive co-operative, reflective and transformative teacher this study will be significant for me that will contribute me for professional development.

In addition to this my study will be helpful for me in following ways;

- To researching and finding the various language of musahar students.
- To better mathematics teachers with positive thinking and local language.
- To be more thinking, imaginative and discovering power.
- To so for further research this inquiry will guide me more supportively.

Thus, my research will be helpful for thinking, imagining and searching mathematics knowledge for active participation of each students and mathematics teacher of musahar student in learning mathematics.

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