

**PARTICIPATION OF THE DALIT STUDENTS IN  
MATHEMATICS LEARNING**

**A  
THESIS  
BY  
SUJAN KUMAR K.C.**

**IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF EDUCATION**

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## LETTER OF CERTIFICATE

This is to certify that Mr. Sujan Kumar K.C. a student of academic year 066/069 with Campus Roll No. 1225/066, thesis no. 957, Exam Roll No. 284538 (2069), T.U. Regd. No. 9-2-323-91-2005 has completed his thesis under my supervision during the period prescribed by the rules and regulations of Tribhuvan University, Nepal. The thesis entitled, **Participation of the Dalit Students in Mathematics Learning** embodies the results of his investigation conducted during the period of 2015 under the Department of Mathematics Education, Central Department of Education, University Campus, Kirtipur, Kathmandu. I recommend and forward that his thesis be submitted for the evaluation for awarding the Degree of Master of Education.

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**LETTER OF APPROVAL**

A  
Thesis  
By

Sujan Kumar K.C.

Entitled

**Participation of the Dalit Students in Mathematics Learning** has been approved in partial fulfillments of the requirements for the Degree of Master of Education

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**ABSTRACT**

This is a case study related to participation of Dalit student in mathematics learning at secondary level in Rukum district. The objectives of this study were to identify the participation of Dalit students in mathematics learning and to suggest the possible remedies to participate of Dalit students in mathematics learning.

The researcher find selected the Dalit students of secondary level in Bijayaswori VDC of Rukum district. Six Dalit students, respective parents, mathematics teachers were chosen for the study. Class observation and interview were the main tools for the data collection process. The researcher visited the sample school and concerning the mathematics teacher, Dalit failure students and respective parents. The study found that poor economic condition of the family, negative social belief and tradition, household work load, cost of education, lack of motivation, psychological effect, distance of the school were the problems of participating the Dalit students in mathematics learning.

To improve the learning capacity of Dalit students in mathematics. They should be motivated to be regular in school, necessary materials should be provided to them from the school, there should be discussion between Dalit student, parents and math teachers about their student, there should be discount in tuition classes and hostel fee, there should be at least one Dalit teacher in each school. The economic help should be provided to them and the people who discriminate them should be discouraged.

## **TABLE OF CONTENT**

**Page No.**

|   |       |
|---|-------|
| <i>Letter of approval</i>               | i     |
| <i>Letter of Certificate</i>            | ii    |
| <i>Acknowledgement</i>                  | iii   |
| <i>Abstract</i>                         | iv    |
| <i>Table of Content</i>                 |       |
| <b>Chapters</b>                         |       |
| <b>I: INTRODUCTION</b>                  | 1-7   |
| Background of the Study                 | 1     |
| Statement of the Problem                | 4     |
| Objective of the Study                  | 5     |
| Significance of the Study               | 5     |
| Delimitation of the Study               | 6     |
| Definition of Related Terms             | 7     |
| <b>II: REVIEW OF RELATED LITERATURE</b> | 8-14  |
| Theoretical Literature                  | 11    |
| Constructivism                          | 12    |
| Conceptual Understanding of the Study   | 13    |
| <b>III: METHODS AND PROCEDURES</b>      | 15-18 |
| Design of the Study                     | 15    |
| Select of Study Area                    | 15    |
| Sample of the Study                     | 16    |
| Tools of the Study                      |       |
| Observation                             |       |
| In-Depth Interview                      | 17    |
| Written Documents                       | 17    |

|   |              |
|---|--------------|
| Data Analysis and Interpretation Procedure                | 18           |
| <b>IV: ANALYSIS AND INTERPRETATION</b>                    | <b>19-36</b> |
| Introduction of Case Students                             |              |
| Respondent I  | 19           |
| Respondent II   | 20           |
| Respondent III  | 21           |
| Respondent IV   | 22           |
| Respondent V  | 23           |
| Respondent VI   | 23           |
| Teaching Learning Process                                 | 24           |
| Home Environment  | 31           |
| School Environment  | 33           |
| Culture and Society                                       | 34           |
| <b>V: SUMMARY, FINDING, CONCLUSION AND RECOMMENDATION</b> | <b>37-39</b> |
| Summary and Findings                                      | 37           |
| Conclusion  | 38           |
| Recommendation  | 38           |
| <b>REFERENCES</b>   | <b>40-41</b> |
| <b>APPENDIXES</b>   | <b>42-46</b> |

**Chapter I**  
**INTRODUCTION**

## **Background of the Study**

This thesis project tries to deal about the participation of Dalit students in Mathematics learning. Dalit refers to a caste which is known as the lower caste in Nepalese society. To define the term 'Dalit' a Nepali dictionary called 'Brihad Nepali Shabdakosh' states, 'Caste of group of people who are unable to get equal right, prestige and power in the society; exploited and disadvantage caste of group of people due to unequal social system'.

Nepal is a multicultural, Multiethnic, Multi religious and multidimensional nation according to the Interim constitution of Nepal. The cultural, religious, and ethnic background of the people affects their learning capacity. Similarly, mathematics learning differs due to culture, society, school, and home environment curriculum etc. Therefore mathematics achievement differs among different ethnic groups. Similarly in the context of Nepal lower caste community of student of hilly region, due to weak socio-economic status and lack of educational awareness, may have poor achievement in education in general and in mathematics in particular while the higher caste community who are well educated has better achievement than other.

There are many cultures in the Dalit community, for example: Damai do not step into Kami's house. If by chance someone does so, the entering person has to go through the ritual of sparking water purifying the body. Dalits is singing and dancing caste is considered as the lower among Kami, Damai, Sarki and other. There are many superstitious evil habits among the Dalit community. Eating dead animals and drinking alcohol are against eating and alcoholism.

Nepal is the land of diverse caste and ethnicity. There are many caste Newar, Gurung, Limbu, Sherpa, Badi, Thakali, Tharu etc. residing all over the country and in comparison with them the untouchable caste like Damai, Kami, Pod, are in minority.



In comparison with the majority upper caste these lower caste have little knowledge and poor, uneducated and are below line of the poverty. Dalit is one of the castes among the lower caste because of the unique occupation. They adopt from the ancient time, they have their own characteristic. From the ancient they lived their lives by singing and dancing in the jatra and village.

"Even five fingers of a hand are not equal; how can an individual be equal to others?" with these words, does a Nepali legitimize social inequality by drawing upon a folk formula to explain it? Contrary to this legitimization of inequality, he or she also argues that to the God all human beings are equal. This is expressed the lived tension of being socially equal or unequal, a tension which is manifested in many different forms. Nepal's religious and cultural values, that some are born high caste and some low caste and socio-economic values that some are born with a silver spoon in their mouth and others with a hand to mouth problem for minimal sustenance, maintains and reproduces the tension of being equal or being unequal. The caste system in Nepal was conceived and nurtured by religious and cultural values, and in most caste a grade system blended with the caste hierarchy. In both the advantaged and disadvantaged caste, there is a word Karma (action or fate) to legitimize this inequality. The affluent high caste the same word Karma now implying socially and religiously unacceptable actions translates in to fat echoing poverty, negativity, passivity, and eventually untouchability" (Koirala, 1996).

Thus, the definitions of the Nepali word 'Dalit' show that it can be used synonymously for disadvantage. In short, 'Dalit' for this study is defined as the caste or group of people, who are socially, culturally, economically and politically exploited, discriminated and disadvantaged in the society due to unequal social system. In other words, 'Dalit' is considered as politically voiceless which is socially prestigeless,

economically exploited and psychologically dominated person or caste or group of people in the society. Because of the unequal social system they are considered as untouchable and water unacceptable people by the people who believe in caste system that helps establishing their legitimacy over state's power and resource.

Dalit are scattered everywhere in Nepal. According to censuses of 2001, the total population of Nepal was 2,31,51,423. The population of Dalit was 29,45,223, which is the (12.85%) of the total population of Nepal. According to censuses of 2011, the total population of Nepal is 2,66,20,809 and according to the report "poverty in Nepal" 2069/70 of CBS, the population of Dalit in Nepal is 13.3%. They are settled in mountains, capital city inner terai and terai region of Nepal. To name some of them are Damai, Kami, Sarki and Gaine in the mountains, Poda, Kasain, Cheldar, Chyame and Badi in Kathmandu. The capital city and Dum, Dhobi, Lohar, Mushar, Chammar, Kushwa, Tamata and Kudke in inner terai and terai region.

Of the many disadvantaged communities of Nepal, Dalit is one. The Dalit community has its caste and sub-caste system. They are also multi-lingual. These Dalits are settled in all the 75 districts of Nepal and are known as water-taboo caste (Paninachalne) or untouchable (Achhut). There are both the paninachalne and achhut group in Nepal Achhut is a synonym of paninachalne groups. Kamai, Damai, sarki, Badi, Gain, Sunar and many other castes belong to this group of people. These caste, in the past, were made on the basis of the function they carried out. Based on Hindu mythology, these Dalits belongs to the Sudra groups of the Hindu's Varnashram system. Going back to the history of the Dalits in Nepal, these people are worker grade people. Initially, occupation only was the basis of caste system. But later on, the basis was not followed these occupational groups of people got socially stylized as

hereditarily being born as Dalit, living as Dalit and dying as Dalit. Thus, the Dalits became an exclusive caste group.

The researcher found of the Dalit people are very poor. This socio-economic status also less than other upper caste people. Some people have followed the caste specific traditional occupation to establish in the society and some followed agricultural field. These occupational skills contribute a little improvement of their life style. One of the reasons of being poor is that they have a large number of children. Because of lack of education they give birth to a large number of children. So, the education parents take care of their child seriously rather than the literate and literate parents. Educationally, the Dalit people are still backward. Only a few people are educated in this community. So, most people are economically poor and they cannot send their children in school.

In this way, to find out the participation of the dalit students in mathematics learning is the main objective of this research. This study tries to find out the participation of the dalit student in mathematics learning and find and suggest, remedies to the participation of dalit students in mathematics learning.

### **Statement of the Problem**

This study was concerned to find the participation of the Dalit students in mathematics learning at secondary level. Dalit students are culturally backward and have facing different problem than other students. Mathematics is a major for every student to his/her career.

Dalit, a discriminated and marginalized group, has been slowly including in all spheres of Development. However, there are many impeding factors to exclude them. Dalit enrolment in primary level is higher but their continuation is major challenge in upper level. Major impeding factor of drop out and lower attainment of secondary

schools are caste based discriminations, poverty, illiteracy in Dalit parents, no teachers inspirations and discrimination by peers and society. The policy has showed positive indication however there is still challenge in the implementation of these policies. The same case is found in mathematics learning of the dalit students.

The researcher was intending to study the participation of Dalit students in mathematics learning. In this context the study was focused in the following research question.

- Why is the participation of Dalit students in mathematics classroom?
- What are techniques to rais the participate of Dalit students in mathematics classroom?

### **Objective of the Study**

The study was intended to accomplish the following objectives:

- To identify the participation of Dalit students in mathematics learning.
- To suggest the possible remedies to participate of Dalit students in mathematics learning.

### **Significance of the Study**

This research study tries to identify the participation in learning mathematics of school children of Dalit students. With reference to this context, it would be worthwhile to study to participation of Dalit students. It could be used to improve the mathematics learning of Dalit students. It had provided the appropriate information about the difficulty of Dalit students in learning mathematics. Every country wants to serve quality education to their public. It is believed that desire has not been fulfilled. Nepal has accepted the universal motto "education for all" to tie-up the prevailing different caste and their religion, culture and traditions. The Dalit are dominated in the

level of social hierarchy. This research study tried to identify the participation in learning mathematics of Dalit students. It was used to improve the mathematical learning of Dalit students. It had provided the appropriate information about the participation of Dalit students in learning mathematics.

This study was the following implications:

- This study would to identify the problems that might be seen in mathematics teaching and also to show the way to solve them.
- This study would help to give information about the different mathematics program for the government to improve the Dalit students.
- This study would to motivate for encourage to the dalit students to study the mathematics learning.
- This study would provide the information was helpful to understand the participation in mathematics learning.

This study was intended to find out the real scenario of the Dalit participation in mathematics learning. This study explores the condition of Dalit students' participation in mathematics learning. The present identify this study is appropriate not only for the upcoming students who try to study in the related topics, but also for the policy makers and those people who want to know more about the Dalit issue.

### **Delimitation of the Study**

This study was conducted within the following delimitations:

- This study was carried out from Bijayashowri ward No. 5, Rukum district.
- This study was based on secondary level Dalit students of public school.
- This study was conducted within three boys and three girls of Dalit students class X.
- The study was limited to the observation and interview.

### **Operational Definition of Terms**

#### **Dalit Students**

Person who are socially, opperssed, economically, exploited, culturally, ostracised and politically, exianded disadvantaged (i.e. paninachalnejaat). According to Nepali dictionary, "caste or group of people who are unable to getequal rights prestige proud in the society, exploited and disadvantaged caste or group of people due to unequal social system.

#### **Achievement**

The term 'Achievement' was designed as score obtained by the dalit students yearly test.

#### **Participation**

Participation in this study is defined in term of class attendance, classroom interaction (with teachers and students) and extra activities (like homework, classwork, class test etc.) of Dalit students in as secondary school.

## **Chapter II**

### **REVIEW OF RELATED LITERATURE**

The previous studies could not be ignored because they provided the foundation to the present study. There are different research studies concerning Dalit students that help to draw necessary conclusions. In this chapter different items of literature to the Dalit student have been reviewed.

Ghimire (1997) did a research entitled "A study on factors affecting teaching/learning mathematics at secondary level", with the aim to study the factor affecting in learning of mathematics in secondary level by sex wise and rural/urban location of school in terms of the following aspects school environment, family background, motivational factors, physical facilities, interest of the learners and instructional materials. The tools for the study were administrated to the sample of ninety students and t-test was applied and found that:

Environment of the school in both rural and urban affects equally but the boys more affected than girls. Students of Arghakanchi and Chitwan were more affected than that of Kathmandu. The students of Arghakanchi were found more affected than of Chitwan. The students of Kathmandu were more motivated to study mathematics than that of Arghakanchi and Chitwan. The students of urban areas were more interested in the study of mathematics and the girls paid more attention to the study.

Generally, some studies have been done to explore whether the learning is affected by poverty, sex factor, cost of education, parents income, parents education. The present study is different from those of the existing research. In the sense that, it deals about the major factors and how those factors affect the student's achievement and why they have dropout their school. This context and the review of above literature helped researcher to understand the Badi community whose mathematical learning and

affecting factor have not yet studied. Therefore, on this ground the researcher undertook this study.

Thapa (2001) did a research entitled " Learning strategy for out of school children from Dalit community". His main target in this research was to find out the learning skills and ways of learning the daily lives of lives of untouchable children. To examine the skills which are helping them for better life and suggest the ways of establishing linkage between everyday life and out of school children's program curriculum. For the data collection, the researcher developed a form of table and set of questionnaire. For the collection of data, the researcher visited selected person which by purposively. This is a case study in qualitative nature. He found the different between social and grade room learning. In out of school grades more emphasis was placed on theoretical aspects and less on practical. The study drew some implications for the improvement of learning and learning methods of the out of school program curriculum. And he also suggested that the OSP materials must be related of every life of the children and their ways of learning.

Pant (2002) has conducted her study on the topic "A study of achievement and participation of female in bachelor level mathematics education". The main objective of the study were to compare the mathematics achievement of male and female students in B.Ed. level and to find out the factor affecting participation of female in mathematics learning in B.Ed. level. For the data collection, the researcher developed a form of table and set of questionnaire. For the collection of data, the researcher developed a form of table and set of questionnaire. For, the collection of data, the researcher visited sampled campuses which by random sampling. The conclusions of the study were: there is no difference in mathematical achievement in higher education by gender/sec. social factor such as discrimination behavior, economic



condition, lack of time for hard labour are responsible for making lower participation of female in the study of mathematics.

Poudel (2004) did a research entitled "Learning mathematics for out of school children". He wrote that most of us, from the distance, might have visualized that the non-schooling children from untouchable caste have negligible idea about mathematics. The researcher found that non-schooling children from untouchable caste learning mathematics through their everyday life in different ways. They learned by looking others works, by hearing them and by repeating it. Without formal education they learned many mathematical skills that helped them to perform their tasks easily. Mostly, they learned such mathematical skills from the environment. Also they were learning such mathematical skills from their peers, parents and other elders.

Paudel (2005) studied, "Learning strategies of mathematical concepts of out of school". His main target in this research was to find out the learning skill and ways of learning mathematics in the daily life of the untouchable children who were out of school. In this research, the research was choose Ghorme village to Tanahu district and studied the four children of Kami and Sarki caste. He selected two children in each cast and studied briefly about these children how they are learning mathematics. From this study researcher found that non-schooling children from Dalit caste learned mathematics through their everyday life in different ways. They learned by looking others work, by learning from their peers, parents and other elders. He also found the formation of mathematical ideas on Dalit children began with household works, form works labor work, playing and other activities. Some mathematical knowledge was acquired traditionally imitation observation, active participation and so on.

Dhakal (2008) has conducted on the topic, "Mathematics achievement of grade VI students in Kavre district". The objectives of thesis were to find out the mathematics achievement and to compare the mathematics achievement of students studying instructional and public school. For the data collection, the research developed a form of table and set of questionnaire then the researcher visited sample campuses which were selected by random sampling. The researcher used to the table which is analyzed statistically in term of mean, standard deviation and t-test. The conclusion of the study were mathematical achievement level of grade VI is satisfactory. The achievement level of student, studying in institution school is higher than student studying public school. The achievement level of girl's students and boy's students are almost same.

### **Theoretical Literature**

There are so many theories which can be used to understand the learning process. The theoretical discussion is needed for the interactive finding of the study. Many theories about learning and development of children such as cognitive, behaviorist, humanist, social constructivism of which constructivism is one of the theories to analyze and interpret the data of mathematics of resolve the problem. To analyze and find the suitable solution in the area of low participation in mathematics; constructivism becomes one of the possible theory to solve the problem on the topic of "Participation of the Dalit students in mathematics learning" (A case study of Dalit student). Every student learns from society from social contact with home, family, and universe. According to them, knowledge can be constructed from society. This kind of thoughts can be given by constructivism.

### **Constructivism**

Constructivism is related to educational theory to deal with the problems of mathematics. It helps to find out the problem of low participation in mathematics. It is

a theory based on observation and scientific study to deal the problem of learning. It asserts on forming the understanding and knowledge of the world through experiencing things. When we encounter something, our mind perceives the things and reconcile with previous ideas withpreexisted idea. It means our mind becomes active creator to reach and act with present surrounding. In the similar way constructivist idea of learning can point towards number of different teaching practice. It encourage the student to involve themselves actively and used techniques of learner centered, group work discussion, learning by doing, use outside tools to be more practical and gain high achievement in mathematics rather than classroom it focus on real life learning environment, social interaction and use of complex idea share with other outside of classroom easily. Constructivism transforms the students from passive receipting of information to active participant in teaching process. Constructivism based on three axioms that are as follows.

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

From above axioms Upadhyay (2001) took three terms action, reflection and scaffolding to describe three broad aspects of constructivism, psychological aspect, philosophical aspect and sociological aspect. Piaget stresses on the key word "action" through which he advocates that knowledge is gained. He said that essential way of knowledge is not directly thought our sense, but primarily through our action. Philosophical aspect of constructivism is also called radical constructivism, which is led by Glasersrfed who advocate as social constructivism leaded by Vygotsky, who states that knowledge is socially constructed.

## Conceptual Understanding of the Study

There are different participation of Dalit students in mathematics learning. Home is the first schools of students so the home environment plays the vital role in mathematics learning. Parent's education and their behavior participate the learning. How much time the students get in learning and how much time they pass for household work participation learning.

Which methods the students and teacher has used in their study participate the mathematics learning. So, teacher and students should pay attention while apply the method in mathematics learning. Culture is the sum of past and present and it is the base of human being that participates in everything as in learning. The social environment includes the people's behavior of the society, their social studies and social status. The researcher had developed the following framework:

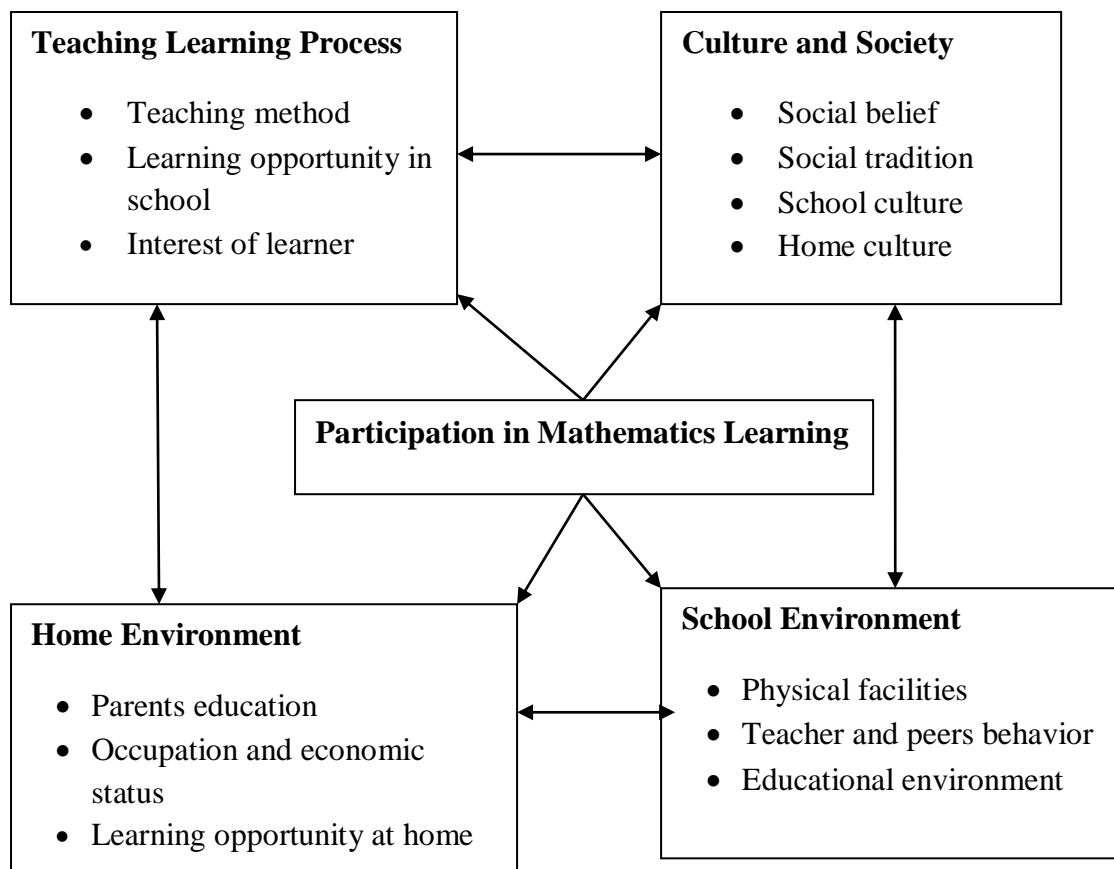


Figure No. 1: Framework for the participation of Dalit students in mathematics learning.

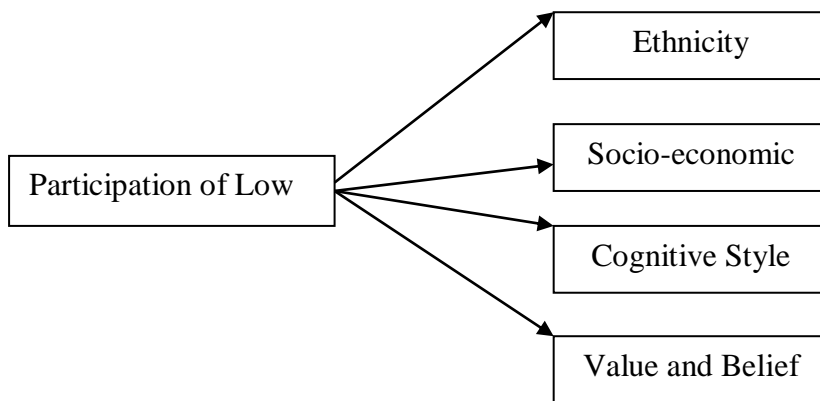


Figure No. 2: Casues of low participation of Dalit studetns in mnathematics learning

The above framework shows there are four different category which are more appropriate to deal about the participation of dalit students in mathematics learning.

These categories are teaching learning process, culture and society, home environment and school environment. Man is a social being, so his behavior is every shaped by the society. The ways they speak, eat, and think and beehive participate the other people of the society.

School is the place of learning that's why its environment plays the vital role in mathematics learning. How the students are behaved in the school participation the learning. Students-students relation, students-teachers relation, school-parents relation and the overall environment of the school participate the learning.

The researcher find every man is guided by his well what he becomes is the outcome of his interest student's in the subject varies according to the situation. Students can get marks in their interested subjects. So, interest too, play the key role in learning.

With the help of this framework, the present researcher analyses the collected data from descriptive method.

## **Chapter III**

### **RESEARCH METHODS AND PROCEDURES**

This chapter presents the procedure of the study, which was carried out to participate the objectives of the study and to get the answer of the problem. The issues discussed to the statement of the problem demand qualitative treatment to address and discuss.

The qualitative research, researcher study things in their natural setting attempting to make sense of or interpret phenomenon in terms of the meaning. Qualitative research involves the studies and collection of verity of empirical mathematics. Case study, personal experience, interview, observation, historical interaction and visual text that describe routine problematic mathematics and meaning in individuals lives.

#### **Design of the Study**

The study focuses on the participation of Dalit students in mathematics learning. This is a case study based on qualitative research as well as descriptive in nature. The selected respondents' responses are minutely described in this study and their case related to the participation of mathematics learning would be described.

#### **Select of Study Area**

The researcher selected Dalit students (one of the Dalit community) located at Bijayashwori-5, Rukum because of poor educational condition and backwardness in every aspects of their life. Some of their students did not attended any educational institution yet. Majority of Dalit population reside in this area it is accessible. So, that this would be the appropriate study site of this research study.

The researcher chooses purposively Shree Shital Higher Secondary School, Bijayashwori-5, Rukum. The researcher has a convincing reason for selecting the

school that it was located in this area, where the Dalit community was living and its catchment area for study site.

### **Sample of the Study**

The respondents of the case study were Dalit students, their parents, and mathematics teachers who were selected purposively. From the school only six Dalit students who were weak in mathematics were selected for this study. The researcher would discussed interview through certain questions related to their difficulties on participation of the Dalit students in mathematics learning and personal background. They all agreed to this view. Thus, the researcher observed the selected area and selected Dalit students about 30 days. In that time, the researcher observed them carefully how they learned and where they felt difficulty on mathematics learning. From the Dalit students of grade 10 only six students were select purposively (three boys and three girls) for the interview. The below table no.1 shows the information of respondents Dalit students.

**Table no. 1**

#### **Name of the Sample Students**

| <b>S.N.</b> | <b>Name</b>    | <b>Gender</b> | <b>Residence of</b> |
|-------------|----------------|---------------|---------------------|
| 1           | Respondent I   | Male          | Vijashwori-5, Rukum |
| 2           | Respondent II  | Female        | Vijashwori-5, Rukum |
| 3           | Respondent III | Male          | Vijashwori-5, Rukum |
| 4           | Respondent IV  | Female        | Vijashwori-5, Rukum |
| 5           | Respondent V   | Male          | Vijashwori-5, Rukum |
| 6           | Respondent VI  | Female        | Vijashwori-5, Rukum |

## **Tools of the Study**

In this study, the researcher used the relevant tools and techniques as observation, interview, and other related document and so on in order to collect information for the respondents. The researcher used the following tools the collection the data.

### **Observation Form**

Observation refers to the study of the respondents' behavior by the direct method. Classroom observation was the tools of this study. The classroom observation form was include required information, the researcher observation, school overall as well as key respondents individually and collectively during their work at school, classroom playing with peers, by interesting with teacher. The researcher developed the observation them semi-structured from Appendix-A.

### **In-Depth Interview**

The interview schedule was developed in semi-structure form. The interview has been conducted with the students, parents and mathematics teacher. The guideline for interview with students has been shown in the Appendix B. was areas conducted among six students, related parents and mathematics teacher with the help of interview schedule appendix B, C and D respectively.

### **Written Documents**

Written documents were important of study the qualitative researcher. Different information's about school and students such as a past result, physical facilities, resources, students records, teacher's demography, personal diary were considered as the secondary data.



### **Data Analysis and Interpretation Procedure**

In this study, the data analysis was descriptive in nature. The collected information at first, were categorized according to the category of the respondents, and their different respondents was given in the text of interview and observation notes. After categorizing the collected data were interpreted and explain the perspective of the respondents which was more helpful to fulfill the objectives of this study. Cross match or triangulation was adopt to maintain the validity and reliability of the information. Then, the cross matched information were analyzed and which was descriptive in nature. The case of the students which were collected from the diffirent technique, were the major factors and their description lead to the research in its full shape. The data analysis were interpreted by using the frameworck of the research in literature review etc.

## **Chapter IV**

### **ANALYSIS AND INTERPRETATION**

This is a qualitative study. The main focus of this study was to identify the participation of the Dalit students in mathematics learning. This chapter deals with the analysis and interpretation of the collected information derived from the case study. The researcher used class observation procedure in this study. The researcher had observed the case students behavior, activities, and interaction with teacher in his research. The students' home environment and his behavior was evaluated by the researcher with the help of interview schedule. The researcher had interviewed with the researcher and had also noted the case students as per class documents, their regularity, behavior etc. from school documents.

The collection information were analyzed and described under the following headings:

#### **Introduction of Case Students**

##### **Respondent I**

He is 16 years old boy studying at grade X. He lives in vijayashowri-5Rukum. It takes 30 minutes to reach in school from the home. There are eight family members in this house and they all believed in Hindu religion. He is known as a disciplined boy in the school. His interested subject is Nepali in school and his aim in life is to be a doctor. His educational standard is described in comparison with his previous class. He has 25 positions in previous class but later his position is 27 in the class. His parents are uneducated. It is very hard to maintain this family economically, his father is a farmer and mother used to sell wine and also worked in the house as a house wife. His three

brothers and one sister are studying in three, five and one respectively in the same school.

He is a regular student in school and reaches school on time with school uniform. While observing the mathematics class, the researcher saw him with homework regularly but according to the mathematics teacher sometimes he comes without homework. After returning home from the school he takes his snack and then goes to play and return home at evening. He does not show his interest in household work so he gets enough time to study. He is a normal student of mathematics, but he is a friendly student in the class, either questions or talks in the classroom. Hari said that he has less interest in mathematics. The mathematics teacher helps him while he focuses the problem while solving the problem in the class work.

## **Respondent II**

She is 17 years old girl student of grade X. She has been studying in the Shree Shital higher secondary school since grade six. Her house is 0.6 k.m. far from the school. All members of her house follow the Hindu religion and speak Nepali language. There are seven members in her family. Her main aim in life is to be a good singer. She wants to be a singer of national standard but not a singer who goes to the door of other's houses.

Her class roll number is 15. Science is her favorite subject. English, mathematics and Nepali are the others. She is not interested. Her father used to manage livelihood by continuing the profession of predecessors but later the situation has changed and he himself has the consciousness so not involved in his profession. He used to go to the hard labor; her mother is working as a sweeper in this school. In extra-curricular activities, she has regularly participated in singing program and mostly win the prize. She does not want to miss the class but sometimes she misses the class because of her

household works. She is interested in school accurately at quarter to ten with school uniform. She has used to present mathematics homework but rarely with complete homework because she could not solve all the problems and there was no one who guided her in study at home.

Her mother go to job in early morning. Almost, working in the morning is her compulsion. So, she has no time to study in the morning she does her homework and study in the night time. In their culture the parents give more Importance to the son not the daughter and the same case happens in the education. She is average students from economically poor environment preferred to participate in extra- curricular activities than in educational activities.

### **Respondent III**

He is a 17 years old boy student grade X. His house is located at Bijayashowri-5, Rukum and it takes 15 minutes to go to the school. There are six members in his family and they all followed the Hindu religion. In comparison with other dalit family, his family seemed small his father is a labour in work in other field works. His mother is seemed busy in household work as a house wife and she is also illiterate.

Social is her favourite subject. His hobby is to play valley ball and his aim in life is to be a good valley ball. He is known as a good student of the class but the teacher said that, he is restless he has talked in the class while the teacher is teaching. He usually ask the question to the teacher unhesitating when he faced the problem.

While observing the mathematics class, researcher has shown that he has always presented his homework and immediately solved the mathematical problems which the teacher worked out in the class work. He has one friend in the classroom with whom he used to sit and outside the school too. He has passed his time with the same friend. He seem satisfied with the school environment. He always respects teacher and

staff of school because he thought that they has provided the opportunity to get the equal education to all thought that knowledge of mathematics should be applied to the day life. So, he is interest in mathematical learning he passes his most of the hours to the mathematics problem than the other subjects. He is interested in magical problem from out of the course. The parents' his, the best students among dalit students is intelligent in mathematics because of his good home environment he could succeed in mathematics.

#### **Respondent IV**

She is 15 years old girl student studies in grade X. In her family, there are five members, father mother, two brothers and she herself. Her parents are engaged in agriculture. They go to the daily work to gain economic help. She helps her parents both in house hold work and works outside the house, her main work is to take care her younger brother and to work the household works when her parents go out of the home. She does not have good family environment to study.

The source of income is very poor. So the children could not get good education. She has to do all the house works because her mother used to think that a daughter must do house hold work to be a cultured daughter.

She is a poor students of grade X and frequently missed her class because of her home environment. Economically and educationally weak environment of the home and society affects her learning in mathematics.

#### **Respondent V**

He is 16 years old boy students at grade X. He lives in Bijayaswoi-5 Rukum. It takes 33 minutes to reach in school from home. There are ten family members in his house and they all believed in Christian religion. He is a disciplined boy in the school and neighbored. His interested subject is social in school and his aim in life is to be an

army. He has secured 10<sup>th</sup> position in previous class but his father and mother are uneducated. It is very hard to mention this family economically. His father is a farmer and mother used to be a house wife. He has four brothers and one sister who are studying in three, five, six and two respectively in the public school.

He reaches school in time with school uniform while observing the mathematics class. The researcher sees him he does not do his homework regularly but according to the mathematics teacher, sometimes he comes with homework. After returning home from the school he takes his small puppy and them went to play and returns home at evening. He is a normal student of mathematics, but he is a friendly student in the class & interest in mathematics.

#### **Respondent VI**

She is 17 years old girl student. She lives in Bijayaswori-5, Rukum. Which is X minutes far from the school. There are eight members in her family and they all followed the Hindu religion. This family is very poor and also illiterate.

The family does not give her pressure in her study as she studies half an hour regularly a day but she has to help in house hold work. When she is asked about her interested in mathematics, she says that, that it is harder than other subjects. Which is due to not completion of course in time, no alternative teacher of mathematics and the school cannot provide additional class. If the mathematics teacher is absent according to subject teacher, it is difficult to maintain mathematics course for both the students and the teacher if the class if disturbed to any causes. He has a keen interested in extracurricular activities like football, volleyball.

She is an average students of grade X. Sometime she miss her class because of her home environment, economically and educationally weak environment of the home and society participate of her learning in mathematics.

## **Teaching Learning Process**

Teaching is the process of learning in the mathematics classroom. It is a science and art of providing and gaining knowledge via different method. It includes the method of teaching, process of motivation, opportunity to learn in classroom activities.

In the observation school, the present researcher had tried to know the teaching method used by teachers in mathematics classroom, learning opportunity in school and interest of the learner while learning. This study focuses these things with the Dalit learners. The mathematical problem can be solved by different process in mathematics. The teacher teaches directly effects on the mathematical learning of students. It is better to use student centered approach the teacher centered approach while teaching mathematics.

Many theories about the learning and development of children such as cognitive, behaviorist, humanist, social constructivism of which constructivism is one of the theories to analyze and interpret the data of mathematics or resolve the problem. To analyze and find the suitable solution in the area of low participation in mathematics; constructivism becomes one of the possible theory to solve the problem on the topic of "Participation of Dalit students in mathematics learning". Every student learns from society from social contact with home, family, and universe. According to them, knowledge can be constructed from society. This kind of thoughts can be given by constructivism. The researcher analyzed suitable solution in the class of low participation in mathematics. States that knowledge construction is both a social and cognitive process.

When the researcher asked with the students the question "How is your interest in mathematics?" Most of the respondents had taken this subjects a most difficult subject

in comparison with the other subject which the curriculum includes. The responses to the questions were following:

*"It is difficult to study so I do not like mathematics."* (Student)

*"It is not difficult to learn mathematics if I take class regular."* (Student)

*"Mathematics is interesting I could not give time at home so it is difficult."* (Student)

From the above responses it could be said that most of them feel mathematics difficult. They are not interested in mathematics. The main cause of their responses is taken as a method used by teachers while teaching learning activities in the classroom. When the present researcher tried to know the method of teaching of the teachers, the responses from the respondent teachers were as follows:

*"I use student centered method as well as explain the problems step by step on the background while teaching mathematics. But I prefer to use problem solving methods most. If necessary I use teaching materials."* (Views of Math Teacher)

The above views indicated that the teacher used problem solving methods but explaining step by step. It was also observed that the teacher used different teaching methods as relevant to the topics. The teacher also used teaching materials as necessary for the lesson. Hence we concluded that teaching method in the classroom was satisfactory from the response of the respondents.

It is a theory based on observation and scientific study to deal the problem of learning. It asserts on forming the understanding and knowledge of the world through experiencing things. When we encounter something, our mind perceives the things and reconcile with previous ideas which has already existed or reconciled with pre exist idea. It means our mind becomes active creator to reach and act with present surrounding. In the similar way constructivist idea of learning can point towards number of different teaching practice. It encourages the student to involve themselves



actively and use techniques of learner centered, group work discussion, learning by doing, use outside tools to be more practical and gain high achievement in mathematics rather than classroom it focus on real life learning environment, social interaction and use of complex idea share with others outside of classroom easily. Constructivism transforms the students from passive receipting of information to active participant in teaching process. "What is the field of interest of the Dalit students?" The responses were as following:

The researcher observed the theory constructivism transform the students from passive receipting of information to active participation in teaching process. This theory focus real life learning environment, social interaction and use of complex idea share with other outside of classroom early. It encourage the students involve themselves actively and use techniques of learners centered. Group work, discussion, and learning by doing use outside tools to be more practical.

*"They are interested in singing, dancing, listening folk music and games. They are also interested in visiting and less of them are interested in studying."* (Teacher)

When the teacher was asked the question by the researcher, "Why Dalit students are unsuccessful in mathematics test?" The following responses were obtained:

*"The dalit students gave not enough time to practice at home. They are irregular in class. Their irregularity makes more difficult to pass in mathematics. They couldn't tuition and coaching class."* (Teacher)

According to mathematics teacher, because of the poverty, they couldn't invest money for tuition and coaching, lack of interest the mathematics subject, lack of time of practice in mathematics. From the above responses, dalit students are irregular so they feel each problem hard as they are not interested in mathematics. Their participation in mathematics was in low.

The observation and interview taken from students and teacher, it was found that most of the dalit students used to be absent in class. So it carried out problems in teaching learning process which were problem to finish the course in time problems to be selected and to be used appropriate method and materials, teacher plan was failed but the teacher had tried to apply the interaction, problem solving method and student centered method according to vygotskyls' social development theory of students' participation.

When researcher asked the question "What do you think the teacher's behavior towards you"? The responses to this question were as follows:

*"Teacher behaves equally in the class"* (Student)

*"They do not discriminate in the class. But they do not give the special attention to us".* (Student)

*"If we ask the teachers they give us positive response".* (Student)

*"Teacher does not give the special attention to us".* (Student)

According to the response it could be used that teacher does not discriminate them. Teacher behaves equally in the classroom. The Dalit students wanted the special attention from the teacher.

Peer group is another influencing factor of the students' teaching learning process. If the peer group encourages them for study, they are quick learner and active player in teaching learning process. If not, they are weak in learning. The responses obtained from the researcher to the question "How do the peer groups behave you?" Were as following:

*"Some of them help us and some of them niggle us."* (Student)

*"Some of them help us in learning mathematics."* (Student)

*"They discriminate us in the social place also."* (Student)

According to them some of students do not discriminate them and help them to learn. But other students hate them in the school and in the home also. There is discrimination between Dalit and other till now.

From the above discussion, the present researcher found that the poverty of the family, peer group, school environment, the interest of the learner, processes of motivation used by teacher while teaching learning activities, and other issues were the major factors which creates the difficulties in teaching learning process.

Due to the lack of educational awareness the parents couldn't maintain the home environment to study for students. They want that their children should help in their work at home. In the school students come from different ethic case group caste and culture. The teacher should teach the students in different method according their necessity. But the teacher in the class taught the students their traditionally way. There want use of materials. Teacher could not teach them according to their individual difference mainly the work of the teacher In the school are to guide students provided extra- activities encourage and motivate the students in mathematic learning.

The present researcher observed fifteen classes in the school by focusing on theteaching learning activities in the classroom activities. It is very difficult to present all the data in this study due to time and constraint, so, three episodes are presented below:

## Episode First

*The first class observation the teacher went in to the classroom along with the researcher. All the students stood up and said good morning. Then the teacher told them to sit down. This should that the students were well disciplined and the schools have taught them to respect the teacher. There were 40 students. In the class 'A' the desk and bench were sufficient in the class. The white board was kept at the right place. The teacher started to teach simple interest. Teacher wrote down a problem and formula on the white board and started to solve each step. He asked then whether they under stood or not, some of them said yes sir. Mainly the students on the first bench were active most of dalit students were passive. Again the teacher wrote another problem explaining step by step asking them at least he did the problem in the white board. Then told them to do the exercise at home.*

In this case episode, the researcher found that most of the dalit were present the students of the class were not so active. The teaching method was a lecture and practice. The teacher behaved commonly to all the students. He did not focus the dalit students specially. They are not interested in the classroom due to teaching method used by teachers. It was also found that the learners' interest in mathematics learning is also not as good as assumed. So that, the dalit students were passive in mathematics class.

From the second episode, the researcher found that the low participation of students in classroom activities was another factor which directly affects the participation of dalit student in teaching learning process. The observation data was presented below:

## **Episode Second**

*The second class observation of the second day. There were 32 students in the class. The class was well managed. The white board was placed on the right place all of the present students were in the classroom. The teacher deductive method in the white board. Then he asked the students what they know about deductive method. The student responded without any hesitation after then he defined the deductive methods. Then he wrote a problem from the exercise book and solved it explaining step by step. He was watering all the students in the class. In the last he gave homework from the exercise book.*

In this episode, the researcher found most of the Dalit students were present and stayed the whole period. Some of them were seem to be interest in mathematics class. There was no differentiation between both Dalit and other students. Teacher was behavior equally but he did not give them special attention.

## **Episode Third**

*The third class observation of the teacher. There were 35 students in the class. There were about 10 dalit students among them. The class was well- managed. The white board was kept in the right place. Some of the dalit students were absent. The teacher started to teach the factorization. He started the class connecting previous lesson. Then he wrote a problem on the white board and solved it explaining. Then he gave a same kind of problem to the student to do without guiding. In the board explaining each step at the last he told them to do the exercise of the text book which too much for the students.*

In the episode, the researcher found that the teaching method used by the teacher was lecture and practice the class was well- managed some of the Dalit students were absent. Only the little number of students was seen to be participated in the classroom. Most of the Dalit students had seated in the last bench. They were none well motivated and responded by the teacher.

### **Home Environment**

Home is the first school to every individual. The students spend most of the time in the house. The children learn many things from their parents.

The response to the question "How does work load affect your learning?" is as following:

*"I have to help my parents in the home; I could not be regular in the class".*

(Student)

*"I have to help in the work at home. I could not give time to my study. So, I do not participate in mathematics period."*

(Student)

*"I work at home and also regular in the school but I could not give more time at home."*

(Student)

On the basis of the above response it can be said that the work load in the home hamper their study. They have to be irregular in the school because of the work at home. They could not give enough time for mathematics practice at home. So, they do not participation mathematics period.

The parents were asked some question by the researcher when the parents were asked about "What do they think about the education of their children." The following responses were obtained.

*"I could not participated them, it is difficult to pay for their education so I think they do not go to school and work at home with us for daily life."*

(Parents)

*"Now a day's everyone is educated so they have to go to study for good life."*

(Parents)

*"It is difficult to live without education but it is difficult to pay for their education."*

(Parents)

From the above response it can be said that most of the parents are aware for their children's education. They think education makes life easy. According to them leave good life their children should study. Because their problems it is difficult to sent their children to school. At last it can be said that the Dalit are also aware for their children's education.

When the parents were asked "how does a parent income affect their children's education?" their responses were as follows:

*"The income is not sufficient for feeding, clothing, health it is difficult to pay for their education".*

(Parents)

*"The source of income is merely enough to fulfill their demand so we cannot afford for their good education"*

(Parents)

*"The family size is large. So it is difficult to conduct the daily life. So it is difficult to provide education for them."*

(Parents)

From the above response the researcher found that most of the parents have difficulty to conduct their home. They have not enough income sources for good education. It can be said that income of the family effect the performance leaved of the children.

The responses the question " how does the home environment affect your study were as following:

*"The members in the home do not understand that we have to study in home also. They talk loudly. So we could not concentrate our mind. There is no person to help us."*

(Students)

*"There are too many members in the home they carry and quarrel. It is difficult to study at home. We could not see anyone studying in the home so we do not think we have to study"* (Students)

From the above response it is found that there is not environment to study for Dalit students in the home. They could not practice mathematics problem at home. They have to peaceful room to study. There is crowded and quirellism environment in the home.

From the observation and interview taken from students, parents it was found that most of the selected Dalit students were very poor economically culturally and educationally. Parents couldn't regard their child's education because of hard labor in participate and house of upper caste. So they couldn't give time for their child's. They can't provide learning opportunity in home but they didn't base on the basis of son and daughter.

### **School Environment**

The school environment play the important role to decided the future position of the students and the life of students. The teaching activities and extra- curricular activities conducted in the school come within the school environment. There should be rule and regulation followed by the teacher and students in the school student should be regular in the school for the good achievement. Discipline of the students is also responsible for the good learning. There should be good relationship between teacher, students, headmaster, parents and school administration but students are not so close to the teacher and headmaster of the school Dalit students do not be close to the teacher but other student close to the teacher.

The school is compound with surrounding the wall. It makes the school environment safe from the outside noise and unnecessary contact with people. The school is about



near the small market but so for the village. The school environment is peaceful. There is no disturbance on the study of the students. Generally students and teachers have to come in time in the school.

In educational field there are libraries, game compound of the school, toilet, blocks, and drinking water only the textbook and teachers are the source of knowledge for the students. Buildings are sufficient and toilet facility is good. Drinking water is sufficient in the school. The school compound is large. The school conducts different extra- curricular activities such as quizzes, discussion, and dance program game mainly foot ball and volleyball.

Library is the important organ of the educational institute to promote the students education. To improve on the achievement and to empower the mind of the student library should be compulsory in each school.

The school had average physical environment there were sufficient play ground tap of water and school was situated in peace environment, which had supported to the students in learning. School used to conduct extra- curricular activities such as mental or educational and physical activities. Dalit students interested to participate the physical activities but they were not interested to participate in the educational activities. Such as quiz context, discussion, essay competition etc.

### **Culture and Society**

Culture is the base of human civilization which shapes the psychology of the individual and the society. Man is the social animal so every activities of society affect him. Dalit community is one of the communities, which has been dominated by other so called upper caste. In the past, this caste was dominated by upper caste but now that discrimination is very less and legally punishable.

There were following response on the question "How does social values and belief affect their children.

*"The upper castes always hates"* (Parents)

*"They discriminate use in the every time and everywhere."* (Parents)

*"We are not allowed to go inside their home."* (Parents)

From the above response it can be said that Dalit are dominated every time from the upper caste. From such kinds of behave they participate themselves lower caste people, which is block of mind making for learning. They could not be confident for their learning. So they are poor in mathematics and in class.

The response on the question "How does social tradition, participation children mathematics learning?" were as following:

*"We have to work in their houses"* (Parents)

*"If our children are educated and they get job they need not serve upper caste people"* (Parents)

*"It is our obligation to follows the traditional because we are poor"* (Parents)

*"Our duty is to serve the upper classes and out child follows us."* (Parents)

From the above response it can be said that Dalit think it is their duty to serve upper classes. They think they need not be educated their children because they have to serve the upper classes. They think serving upper classes is their tradition. So they have to. But two of them parents say that they need not follow the tradition if they get good job to service. The traditions, serving upper cast hamper the children's education. They have to lose the time working in their home. Hence, they could not progress.

The society was stratified in to two categories which were lower and upper society.

Upper society was those were upper class people live with sound of economic,

education, cast and lower society was those were low class people live within economic crisis and especially in cast used to live. In that whole society lower class people were dominated by upper class people. They thought that lower class people are our servant and they should work in our house. Therefore Dalit society has not been flourished by the upper caste people. In the Dalit society they used to celebrate Hindu religion. But most of Dalit people spend lots of money in festival. In Dashain ,Tihar festival they spent lots of money taking loan. Most of Dalit people spend money in food and new clothes they have Dalit habit, to spend the money and food in unnecessary case. So they pass their time in unnecessary deeds like drinking alcohol, playing cards, care board. Because of there, activities social perfection dispersed in the society which created negative Impact up on their children.

## Chapter- V

### SUMMARY, FINDINGS, CONCLUSION AND RECOMMEDATION

#### Summary and Finding

Nepal is a country with multi-caste, multi-language, multi-religions, multi-culture. Dalit is one of the castes back warded in the society. This is the case study of Dalit students. The researcher observed the mathematics class 13 days regularly so the researcher found the factor directly the recorded findings are analyzed by the researcher. Daily participation of Dalit students is less than other students. They were compelled help their parents in their occupation, due to the poverty, they were unable to pay the fee in the school, so, Dalit students were seemed irregular in the school.

Irregularity is one of the causes being Dalit students fail in the mathematics subjects. Participation of Dalit students in the class discussion, homework, class work was less. Dalit students were less interested in mathematics learning. They felt that mathematics is more difficult than others subject. They said that it needs more labour and practice than other subject; they do not have more time for practices. The teaching methods used by the teacher are other factors of low participation of Dalit students in mathematics learning. The teaching method was traditional. Teaching materials are lots but have not been used at case school in mathematics learning. There is no special support to the Dalit students from the school. Dalit students are interested in physical activities but less in mental activities. The major participation of Dalit students in mathematic learning of weak economic condition social belief, tradition of the society, problem of health, far distance of the school, bad family environment, gender basis. Nepal is declared as the inclusive country where there is no discrimination based on caste, sex, language and others in theory. But in practice, it is not shown. Similarly, in the teaching learning process Dalit students feel excluded. This kinds of

exclusion is another cause of low participation of Dalit students in mathematics leaning.

In this way, this research is a case study related to participation of the Dalit students in secondary level mathematics in Rukum district. The objectives of this study were to find out the Dalit students in mathematics learning. The major tools were used for this study were observation form, interviews, questionnaire, classroom observation and related published and unpublished materials.

### **Conclusion**

The school is situated in the peaceful are, there are sufficient building and good computer in the school. Drinking water is available in the school. On the basis of the study of the field and findings, the followings conclusion has been drawn.

- Most of the teacher are trained and less experienced.
- Teaching is satisfactory in the school.
- The participation of Dalit students less than other students.
- There is no interaction between Dalit students and teachers in class.
- Dalilt are irregular in the school. So they few participate in the mathematics.
- The major case of participation of Dalit students are economic condition, expensive education, social tradition, social belief, family environment, parents education, house hold work lack of motivation, psychological effect etc.

### **Recommendations**

Dalit students are discriminated in the society. It is difficult to adjust in the society because they are weak in society. They could not be able in competition among the society because they are weak in the study. They become backward in every aspect of the society. To improve the condition of Dalit students and to make them independent

in the society different kinds of awareness should be taken for the Dalit students. The following suggestions:

- All the necessary educational materials should be given from the school to the Dalit students.
- To encourage the Dalit students to be regular in the class regular Dalit students should be awarded and irregular should be punished.
- In the school Dalit students should be given special attention. They should be encouraged to participate in the classroom interview.
- There should be discount in tuition, hostel etc, for Dalit students.
- There should be fixed free cost in boarding school for Dalit students.
- New trends emerging in the teaching learning process should be applied in the teaching process.
- Inclusiveness should be promoted in the classroom. So that, Dalit students will be encouraged.

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## APPENDIX 'A'

### Class Observation Form

Name of School:

Name of Teacher:

Total no of Students:

Date:

Location of School:

Year:

Time:

Subject:

| S.N. |  |  |  |
|------|--|--|--|
| 1.   | <b>Home Environment</b> <ul style="list-style-type: none"><li>• Children involvement in household work</li><li>• Learning opportunity at home</li><li>• Family economy condition</li><li>• Behavior towards students</li></ul>   |  |  |
| 2.   | <b>Teaching Learning Process</b> <ul style="list-style-type: none"><li>• Regularity of Dalit students in school.</li><li>• Teaching method used in mathematics class.</li><li>• Interaction between teacher and students.</li><li>• Evaluating system of the mathematics class.</li><li>• In class dalit students are passive or active.</li></ul> |  |  |

|    |  |  |  |
|----|--|--|--|
| 3. | <p><b>School Environment</b></p> <ul style="list-style-type: none"> <li>• Extra-curricular activities</li> <li>• Sitting style of the students.</li> <li>• Rule and regulation of the school.</li> <li>• Discrimination among dalit and other students.</li> </ul> |  |  |
| 4. | <p><b>Culture and Society</b></p> <ul style="list-style-type: none"> <li>• Behaviour of dalit students and other students.</li> <li>• Really dominated by other upper caste.</li> <li>• Dalit's norms, values, culture, custom and believe.</li> </ul>             |  |  |

## APPENDIX 'B'

### Guideline for Interview with Dalit Students

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Roll No.: \_\_\_\_\_

Position in Class: \_\_\_\_\_ Sex: \_\_\_\_\_ Cast: \_\_\_\_\_

Place of Birth: \_\_\_\_\_

The interview with students was taken on the basis of following main topics.

1. Opportunity to the Dalit students to learn at home.  
.....
2. Per groups behaviour towards Dalit students.  
.....
3. Encouragement provided to Dalit students by teacher.  
.....
4. Relationship of teacher and Dalit students.  
.....
5. Participation of Dalit students in mathematics class etc.  
.....
6. Interest in learning mathematics.  
.....

**APPENDIX 'C'**

**Guidelines for Interview with Parents**

Name:

Address:

Occupation:

Cast:

Qualification:

Name of his/her Child:

The interview with parents was taken on the basis of following main topics.

1. Parent's view about Dalit children education.  
.....
2. Monthly income of parents.  
.....
3. View about improvement of the achievement of the children.  
.....
4. Thought about the education of their children.  
.....
5. View about the participation of Dalit students by mathematics learning.  
.....
6. Effect of values and customs in mathematics learning.  
.....

**APPENDIX 'D'**

**Guideline for Interview with Teacher**

Name of the Teacher:

Subject:

Qualification:

Class:

Warning Period:

The interview with teacher was taken on the basis of following main topics.

1. View of the mathematics teacher towards the participation of the Dalit students in mathematics learning.  
.....
2. Opportunity provided to the Dalit students in mathematics teacher.  
.....
3. Interest of Dalit students in mathematics teaching.  
.....
4. Thinking of teacher towards Dalit students.  
.....
5. Interest of parents about the achievement of Dalit students.  
.....
6. Teaching method used in mathematics class.  
.....
7. Participation of Dalit students of mathematician class work and homework.  
.....
8. Value and importance of mathemaics learning.  
.....