CHAPTER I

INTRODUCTION

Background of Study

Every child learns firstly from their family, home, society and their social activities. From ancient time, mathematics was developed to solve daily life related problems so it was different as their society and culture (Vygosty, 1978).

UNESCO Asia-Pacific Regional Bureau for Education (UNESCO Bangkok), through a partnership with the Korean Women's Development Institute (KWDI) report (2014) shows, in Nepal girls have less achievement in mathematics than boys. Also rate of girls' failure in mathematics is more than boys. To improve their learning and make them think critically and increase their motivation special classes require. There are several factors affecting girl's education. Early marriage, poverty, cultures, gender discrimination, parents' education, parents occupations and so on conspire to limit girl's enrollment school attendance and girls achievements.

Supporting the Education of Marginalized Girls (STEM) is one of 36 projects being implemented in 22 countries around the world under a DFID funded portfolio of work, collectively known as the Girls Education Challenge (GEC). STEM is one of two GEC projects being implemented in Nepal and is fund managed by Price water house Coopers. The project Supporting the Education of Marginalized Girls (STEM) in Kailali provided Girls Facilitation Classes (GFC) through FAYA Nepal with support of UKaid and Mercy Corps, is working with all girls within thirty schools from grades six to ten, as they are all considered 'marginalized', as well as out-of-school (OOS) girls who dropped out from grades six to ten in the last four years. The environment in and around STEM schools varies from one catchment to another – some are mixed communities and others not; some are cut off from main

thoroughfares due to the jungle or monsoon rains and others, in Dhangadhi for example, some are more accessible; some have electricity and others not; some have over-crowded classrooms and others less so.

In Kailali District (Far West region), 36% of girls (age 10-14) do not transition from primary to secondary school, resulting in more than 50% of girls aged 15-19 not enrolled in school compared to only 23% of boys.Dalit girls have far lower transition rates - 34% complete primary and less than 10% complete secondary school. The Far West hosts extremely high rates of child marriage with almost half (48%) married by the time they are 18, and many by 15. The largest ethnic/ caste group (around half the population) is Tharu, who originate from the Terai, with Brahmin/ Chhetris, Dalit, other castes and Janajati (including ex-Kamaiyas) comprising the remainder. The environment in and around STEM schools varies from one catchment to another – some are mixed communities and others not; some are cut off from main thoroughfares due to the jungle or monsoon rains and others, in Dhangadhi for example, some are more accessible; some have electricity and others not; some have over-crowded classrooms and others less so. The proposed piece of work would need to reflect the range of backgrounds, situations, experiences and environments STEM girls live with, and through a gender lens. Particular attention should be paid to three categories of girls, although the first two categories bear more weight: in school and 19 or under (IS <=19); out of school and 19 or under (OOS <=19); and out of school and 20 or over (OOS >=20)(FAYA Nepal, 2014).

.The project is working with around 7,000 marginalized IS girls in Kailali, and almost 1,300 OOS girls/ women. The project was initiated with an inception phase which began in August 2013 and ended when the implementation phase was approved in January 2014. Activities began in February 2014, and the project – under the

current timeline, is due to close out in April 2016, with implementation activities finishing in March 2016. A five month Mathematics and English extension request has just been submitted to the donor and is pending approval.

These girls facilitation class (GFC) contains five subjects: Mathematics, English, Science, Reproductive health and skill in school. They took government school's subject teacher as those subjects' facilitators. These classes are provided for poor marginalize group of girls. They define marginalized girls are girls from class six to ten of school. There is out school group also running on Life skill and reproductive health but it time of Mathematics, English and science was not decided yet. There are four clubs through class six to ten. Girls of class six and seven are Club A, girls of class eight is Club B, girls of class nine Club Cand girls of ten are Club D. Each Club contains maximum fifty students. If there are more than fifty students in any Club sections will be divided and will be named as A_1, A_2…, B_1, B_2…, C_1, C_2 …, D_1,D_2…..for Club A, B, C and D respectively. These classes are running at last two days of week on school overtime and may be changed as school wise. Each club is facilitates one hour for mathematics per week. They focus on confusing topics of the last week.

In our context, learning is multicultural and multiracial. Each ethnic group has their own language, tradition and culture. It's difficult to teach all students as same procedure. Using relevant cultural examples as much as possible from students' livelihood should be used for effective learning.

Every child has capacity to succeed in school and as well as in life. Especially those students from poor and marginalized families are placed at risk by school practices that are based on sorting paradigm in which some student get high expectation and rest are related to lower quality education.

Mathematics is living subject which seeks to understand patterns that are permit the mind within us and the world around us. Language of mathematics is based on rules and values that must best be learned, it's important for motivation that student more beyond the rule to be able to express their things and views in the language of mathematics.

It's widely used in all discipline. If we want to make our student strong in their field, we should focus on secondary level mathematics. There are several programs that support girl education and female teachers such as COPE program of UNICEF has advocated a lot for girl's education. Community mobilization for the girl's education is one of the major activities of COPE. In the beginning female teachers were given one day off to go to door to door and convince parents of importance of girl's education. Now the concept has changed by the practice of door-to-door visits made at time of admission by a group of teacher (CERID, 2004). Many scholars and policy makers have noted that women have historically been underrepresented in the fields of science, technology, engineering, and math (STEM Field).

Teaching can be defined as interaction between students and teachers on their matters. In our context teacher teaches using different teaching techniques and available materials. But teaching and learning in school is influenced by social and cultural norms and values. All individual are different so if one method is best for ones may not be appropriate for next in the learning class. Trained teachers are taken as facilitator. Student activities plays vital role in learning so to solve teaching and learning problems, teachers activities are also student friendly. Group work and group discussion is mainly useful for facilitation class. A group discussion brings out response from participants on particular topic and provides equal opportunity of learning to all students to increase participant's knowledge and correct their

misinformation about the matter. Also encourages students learn from each other's and thinks critically about the matter.

In order to improve the qualities of school mathematics education, different seminars and workshops are held. Yet then achievement of mathematics in secondary level is not satisfactory. Each year's SLC results is published and show that girls have unexpected poor performance in mathematics. Many girl students are unable to pass mathematics at any cost and leave the school. Girl's facilitation classes are continued in Kailali district to improve girl's mathematical knowledge and her academic results. My study topic is totally new topic for research so study of relevance of Girls facilitation classes (GFC) is necessary. Whether they may get benefit from these classes or not it is remaining to see.

Statement of the problem

There is big discrimination between boys and girls in Nepalese family and society, also daughters got less valued in family then their sons. Family makes most of the decisions about their daughter whether they are educated or not. Daughters are supposed to go to others home and work in household works or in fields. To fulfill the requirements of girls in Kailali district girl facilitation classes are held.

The study concerned that education is to fill-up gender difference and discrimination in order to increase girls' position in mathematics. Thus statement of problem of this study had been a study of relevance of girl facilitation class at secondary level mathematics.

The problem of the study was based on the inquiry of questions are as; Does the pedagogy used in facilitation classes are appropriate? How is the pedagogy used in facilitation classes? What difficulties face by teacher and student while carrying out GFC? What are the possibilities of relevant GFC?

Objective of the Study

The main objective of this study is to examine relevancy of Girls Facilitation Class.

More elaborately speaking;

- To assess the Pedagogy used by mathematics facilitators to facilitates GFC.
- To explore the difficulties faced by teachers and students to conduct girls facilitation class.
- To examine the Possibilities of girls facilitation class.

Research Question

- How is the pedagogy used in facilitation classes?
- What difficulties are face by teacher and student while carrying out GFC?
- What are the possibilities of GFC?

Significance of the study

The NCTM (1998) curriculum and evaluation standards for school mathematics advocates “mathematics for all” as a central idea in education reform. NEC (1992) has recommended that primary education can be given in mother tongue that mathematics has been accepted as an important compulsory subject from grate one to ten.

Finding of this research would be helpful to improve the mathematical achievement of girl student. This study is significance for the researcher’s parents, teachers, policy maker’s mathematics educationist woman empowering institutes and even girls to choose the best way of learning and make better position in mathematics learning.

Girls Facilitation Class is only for girls so whether it helps our national education goal, our formal education system, fulfillment of mathematical cognitive

domain and need of daily life? For these purpose this study is necessary. It is helpful for mathematics teacher to understand varies difficulty level and learning problems of girls. This research would add a new dimension in field of research in our context. This study is important not for only improving mathematical knowledge but also changes our education system and change the policies related to girls and woman.

Delimitation

The purpose of this study was to fulfill the academic degree of masters' mathematics education so information available and time was limited. The study had following other delimitation also:

- Study was limited in four Government schools of Kailali district.
- School was taken purposively.
- Study was limited in only girls of secondary level.
- Study was based on information to be obtained from the GFC observation and interview of facilitator staff of FAYA Nepal and student and focus group discussion.

Definition of key Terms

In my study fallowing terms are frequently used for specific understanding, the terms with their meaning have been given below;

Relevancy: In this study, relevance is defined in term of;

- A close relation between student needs and teaching learning activities
- A close relation between school mathematics and teaching learning activities
- A close relation of mathematical contains and teaching learning activities
- A close relation between mathematical contains and social values

Facilitation: Facilitation is any activity that makes tasks for others easy, or tasks that are assisted. Here it means activity that makes student easy to learn mathematics.

Girl Facilitation Class: Girls facilitation classes are those facilitation classes which are provided through FAYA Nepal with the support of UK aid and Mercy Corps as Supporting the Education of Marginalized Girls (STEM) project.

Facilitator: Those people who facilitate facilitation class.

Student/ Children: This word refers to only girls in this study.

Motivation: Motivation means positive being attitude towards mathematics, give interest in mathematics learning and active involvement in curricular activities**.**

Student's Activities: Student performing behaviors in mathematics classroom to learn something.

Teachers Activities: Teachers those behaviors performing in their mathematics classroom.

Trained Teachers: Those teachers who obtained training from FAYA Nepal's trained facilitator or obtained other professional development training.

Marginalized Group: Only the girls are taken as marginalized group. In school girls from class six to ten are taken, according to these facilitation classes.

Problems: Problems in mathematics refers as difficulties faced by student during learning process.

Cultural Respective Approach: This is teaching approach which is based on practical livelihood experiences and traditions.

School: The school that established by government of Nepal are run by the Government fund.

Project Officer: The person who is member of project, head of office and works under the project coordinator in reporting and others.

Project Coordinator: The project coordinator works across groups, aligning internal team members and external stakeholders, coordinators may coordinate project phases and schedules, arrange support services, order supplies, and track progress, reports to the project manager and serves as a department liaison to product developers and marketing executives.

Social Mobilizer: Social mobilizer is one who is internal member of project and concerned with improving social conditions, changing institutions and power relationships, delivering needed services, and strengthening community participation.

CHAPTERII

REVIEW OF RELATED LITERATURES

Every significance research starts with a review of the literature. To end research researcher must have knowledge of already established theories and researches related to problem chosen by her/ him (Acharya, 2011). In this chapter researcher compares the study which provide the strong knowledge about the related topic. A body of literature is a collection of published information and data relevant to a research question. A review of the literature is an essential part of academic research project. The review is a careful examination of a body of literature pointing toward the answer to research question.

According to Wagle (1995), "Review on related literature is an integral part of research, helping the researchers in the classification of his problems and the avoidance of duplication the planning of an adequate research design and in sign full interpretation of finding."

Literature reviewed includes scholarly journals, scholarly books, authoritative databases and primary sources. Sometimes it includes newspapers, magazines, other books, films, and audio and video tapes, and other secondary sources.

Empirical review

Empirical review deals with the review of the books, thesis, journals, and internet and so on. There are several studies about the relevancy of school curriculum, school books and theories but girls facilitation classes are held since 2013 in Kailali district. So I have reviewed some research related to my study in this chapter.

Parajuli (1999) conducted research on topic "Relevancy of primary school curriculum in Nepal." He concluded that curriculum has an adequate provision of

almost all the necessary useful subject matter. The activities mention in the curriculum, according to them is appropriate to the level of student and sufficient for the development of necessary knowledge, skill, and attitudes.

Shrestha (2012) did research on "Problem encountered in learning mathematics by Newar children in lower secondary level." His objective were to explore the problem faced by Newar children in learning mathematics and to find out the major factors that affect learning mathematics of Newar children. For his research he had used qualitative paradigm and concluded that their major problem in learning was due to poor economic condition of family, linguistic problem and poor classroom environment.

Achraya (2007) did case study on "Social Inclusion: Gender and Equity in Education SWAPS In South Asia, Nepal Case." This study has aimed to understand whether and how it move towards a sector-wide approach (SWAp) in education in Nepal is making a difference to the addressing of educational inequity and exclusion. It further explores how current approaches could be adapted, strengthened or improved in order to enhance overall effectiveness. The main focus of enquiry was the Education for All (EFA) programme 2004–09, which is already following a SWAp modality to some extent. However, consideration was also given to the Secondary Education Support Programme (SESP) 2003–09, as it is planned that this large, jointly-funded project for the secondary sub-sector will be merged with EFA into a single SWAp for the schools sector – the School Sector Approach (SSA).

Ghimire (2015) did research on the topic "Problem Faced by Tharu Children in Mathematics Classroom." Main objective of his study was to analyze the difficulties faced by Tharu children in mathematics classroom. For this research he

has chosen survey design. He concludes that due to domination of language, they have low participation in learning so they have difficulties in learning mathematics.

Baral (2007) did research on topic "A study on gender equality in mathematics text book of grade one." His objective is to examine condition of gender equality in mathematics textbook of grade one and to identify the influence of gender equality in learning mathematics as perceived by the teachers of grade one and used descriptive and explorative approach on research. He has concluded there is gender biasness existing in mathematics textbook in grade one.

Paudel (2005) did Research on topic "Attitude of grade IX girls towards mathematics and theirs mathematics achievement of Syangja district." In this research he used qualitative and quantitative research design. He used purposive sampling.He concluded that girls have positive attitude towards mathematics and there is no region wise difference in attitude.

Giri (2006) did research on topic "Student's achievement in mathematics from gender perspective at primary level." In her research, she has purpose to compare the achievement in mathematics by fourth grade students with respect to gender perspective of used descriptive survey design. She concluded mean achievement between girls and boys students is significantly different and standard deviation used for achievement analysis and concluded that achievement of boys higher than girls in mathematics.

Chhetri (2009) did a study on the topic"Primary school female teacher's attitude towards mathematics and mathematics teaching." In his research, he investigate the female teachers attitude towards mathematics and explore the cause of female teachers being behind in teaching mathematics and concluded that mathematics is an interesting subject but lessparticipation on mathematics teaching. It

is not because of their interest but they had to face other daily life problemalong with teaching.

Attreya (2006) did a research on the title "A Study of problems faced by mathematics teachers to maintain positive discipline in secondary level classroom" with the objectives to examine the discipline of students in mathematics classes at secondary level and to identify the problems faced by mathematics teachers maintain positive discipline in secondary level classroom. The design of study was mixed in nature. The researcher gathered information from classroom observation and interview questionnaire for teacher. He analyzed the classroom observation result by using mean weight age and questionnaire through the related theory. He concluded that mainly the problems are attributed to crowdedness of students in classroom, unavailability of furniture, unarranged seat planning, lack of proper teaching materials, lackness in enforcing school regulations, unsystematic teaching methods, poor evaluation of homework and class work, limited co-curricular activities, punishment system, poor guidance at home, unsuitable family environment.

Dhakal (2006) conducted a study on the topic "A study of the factor affecting the girls student attitude towards the select of optional mathematics at secondary level." She concluded from the study that the girls should have the positive attitude towards the selection of optional mathematics, the attitudes only the determination factor to select optional mathematics and the girl students study optional mathematics because they have positive attitude towards mathematics.

Acharya (2011) did research on "A critical inquiry on the relevancy of primary level mathematics education of Nepal: A Critical perspective." His main objective is to examine primary level mathematics education in Nepal from the perspective of cultural studies in mathematics education. He used the mixed research and concluded

that mathematics teacher may not be able to describe individual diverse nature of students. In the multicultural setting teachers do not have the knowledge of pedagogy and present primary level mathematics curriculum.

My research is different and ever done because these classes are held only in Kailali district and no one have done research on this topic yet.And there is the research gap. To fulfill this gap I am motivated to carry out research on this topic.

Theoretical Literature

Cultural difference and discontinuity theory

According to John Ogbu (1982, 2000, 2001), learning is the product of cultural and language differences. But he emphasizes on the nature of relationship between the cultural language of disadvantaged dominant groups cultural discontinuity theory deals with the problems in children's learning caused by difference and discontinuity between the culture of home and school. Following john Ogbu (2001) learning not only as the product of cultural and language differences' but he insists on the nature of relation between the culture and language of minority/disadvantaged and dominant groups.

Ogbu (1982) that the culture of home may face difficulties their culture the cultural differences between home and school can influence child's learning due to the school environment, teaching procedure ,different classroom activities, teaching style, relation with different unknown person affect mathematics learning. Voluntary minoritiespeople who have shifted voluntarily wishing a better life, opportunity and more freedom in the US, UK, Germany. Due to mainly culture and language differences they usually face the problems in the school. In the US, may create difficulties for those voluntary minorities due to the lack of orientation about how the schooling system works. During the period of colonization, involuntary minorities are

traced as animal that were carried to the US or any other field against their will for slavery or to keep them as slave in home to work in agriculture industry and so on. Universal cultural discontinuity can be got in all children as some characteristics of schooling are discontinuous with their home and community cultures. To encourage family intimate diffuseness and particularize in interpersonal relationship the socialization process in their community and family should be more familiar to the child. Ogbu further illustrates that primary cultural discontinuity is practiced by primary cultural variance resulting cultural developments before members of a given population come into contact with existing culture of dominant group of population, primary cultural discontinuities are often associated with immigrants attending schools in their host societies and with people being introduced to western type school. Due to the consequence of modernization, globalization process and donor network, school are impressed by western schooling system in Nepal.

Ogbu (1982) further illustrates that secondary cultural discontinuity is developed after members of two population groups with different cultural background have been in touch or they have started to participate in an institution like school which is controlled by another group the dominant one similarly a society on which caste like minorities has been incorporated into the society rather involuntarily and permanent with lacking in job and status in society. Due to collective instructional discrimination and display like school system, they tend to exclude from the mainstream with social and economic problem that leads their lives to miserable condition. Since secondary cultural discontinuities are developed by structural discontinuity in the society they are difficult to identity point out and locate in school due to their diffuse nature with a deep root in the society. They are generally born as a

reaction to a contact situation involving the domination of one group by another subordinate group.

Gender equity and equality

Women and men should not only be given equal access to resources and equal opportunities, but they should also be given the means of benefiting from this equality. This is where the concept of ‘gender equity' comes into play. Gender equity implies fairness in the way women and men are treated. The different life experiences and needs of men and women are taken into consideration and compensation is made for women's historical and social disadvantages. The lower status of women in society often constitutes a handicap and provisions should be made to redress this inequality before they can take advantage of the opportunities provided. Gender equity thus serves to level the playing field and empower women. Therefore, we can say that equity is essential to achieve true equality.

In other words, gender equality refers to equal access to social goods, services and resources and equal opportunities in all spheres of life for both men and women. When there is gender inequality, it is women that are more likely to be disadvantaged and marginalized; but we should not ignore the negative impact that gender inequality can have on men as well. For example, societal norms regarding the appropriate behavior for men tend to put them under pressure as regards the need to provide materially for their family, and also deny them opportunities of being more nurturing towards their children and wife. Therefore gender equality is the concern of all and changes must be brought about for both men and women. However, this is not to say that men and women are equally affected by gender inequality. It remains true that women have the greater share of disadvantages.

Piaget's constructivism

Piaget's constructivism is based on his view of the psychological development of children. Constructivism originating in the work of Piaget holds that knowledge is actively constructed by the learner and not passively transmitted by the educator. The fundamental basis of learning, he believed, was discovery. To understand is to discover, or reconstruct by rediscovery, and such conditions must be complied with if in the future individuals are to be formed who are capable of production and creativity and not simply repetition. To reach an understanding of basic phenomena, according to Piaget, children have to go through stages in which they accept ideas they may later see as not truthful. In autonomous activity, children must discover relationships and ideas in classroom situations that involve activities of interest to them. Understanding is built up step by step through active involvement (winter, 1994).

Vygotsky’s Constructivism Theory

Constructivism is a theory of knowledge that argues humans generate knowledge and meaning from an interaction between their experiences and their ideas. During infancy, it was an interaction between human experiences and their reflexes or behavior-patterns.

Learning means the relatively permanent change in behavior, which occurs as a reinforced practice. It considers both physical and mental process. Behaviorist mentioned that learning is the interaction between human being and external environment. They take learning as stimulus response process. If response to the stimulus is reinforced or rewarded then a kind of habit is informed. The cognitivist mentions that learning is an innate capacity of human being.

Another kind of thought about learning derived that it occurs from social interaction. These scholars believe that each and every child learns from society through social interaction with family and environment knowledge can be constructed through the active participation. This new thought is given by constructivism following the theories, actions, reflection and socialization.

Obviously people make their own meaning from their own beliefs, constructs new ideas from what they observe listen and perceive. They do not always use the traditional method but use their own strategies to solve their problems on their own ideas. The child needs some mediators like parents or peers to uplift his/her knowledge that existed with him/her.

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

(i) Learners learn knowledge from their active participation.

(ii) Learners gain knowledge while reflecting on their own action.

(iii) Learners gain knowledge when they try to convey their solution to others.

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

Vygotskian Social Constructivism Theory

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

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

The Russian Lev. S Vygotsky is also important to constructivism, children creating their own concepts as constructivist to the core with a preformed concept from the adult world, the core. Vygotsky believed that children learn scientific concepts out of a "tension" between their everyday notions and adult concepts. Presented child will only memorize what the adult says about the idea. To make it her property the child must use the concept and link that use to the idea as a first presented to her. But the relation between everyday notions and scientific concepts was not a straight development to Vygotsky. Instead the prior conceptions and the introduced scientific concepts are interwoven and influence each other as the child works out her own ideas from the generalizations that she had already and that have been introduced to her(Winter, 1994).

Their students are expected to solve problems, apply mathematics to real-world situations, and expand on what they already know. Sometimes they work with other students. Sometimes they work alone. Sometimes they use calculators. Sometimes they use only paper and pencil. Students need to construct their own understanding of each mathematical concept, so that the primary role of teaching is not to lecture, explain, or otherwise attempt to 'transfer' mathematical knowledge, but to create situations for students that will foster their making the necessary mental constructions. A critical aspect of the approach is a decomposition of each mathematical concept into developmental steps following a Piagetian theory of knowledge based on observation of, and interviews with, students as they attempt to learn a concept (Mathematics Forum net).

Filling the Gap

There are varies researchers who are conducted different researches in different areas but I could not found the research exactly on my topic. I found the gap of the research in this area. So to fulfill this gap I was motivated to carry this research on this topic.

Conceptual Framework

A conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply (wikipedia). The conceptual framework helps to avoid the duplication and to synthesize previous work.

This study sought to draw the difficulties in learning mathematics of girls. This study is mainly based on cultural difference and cultural discontinuity theory and also based on the concept gender equity and equality. According to studied literatures

for relevant girl's facilitation class, various variables such as curriculum material, pedagogy, classroom activities, teacher training and assessment should be well managed. Hence my conceptual framework of the study is given by following figure.

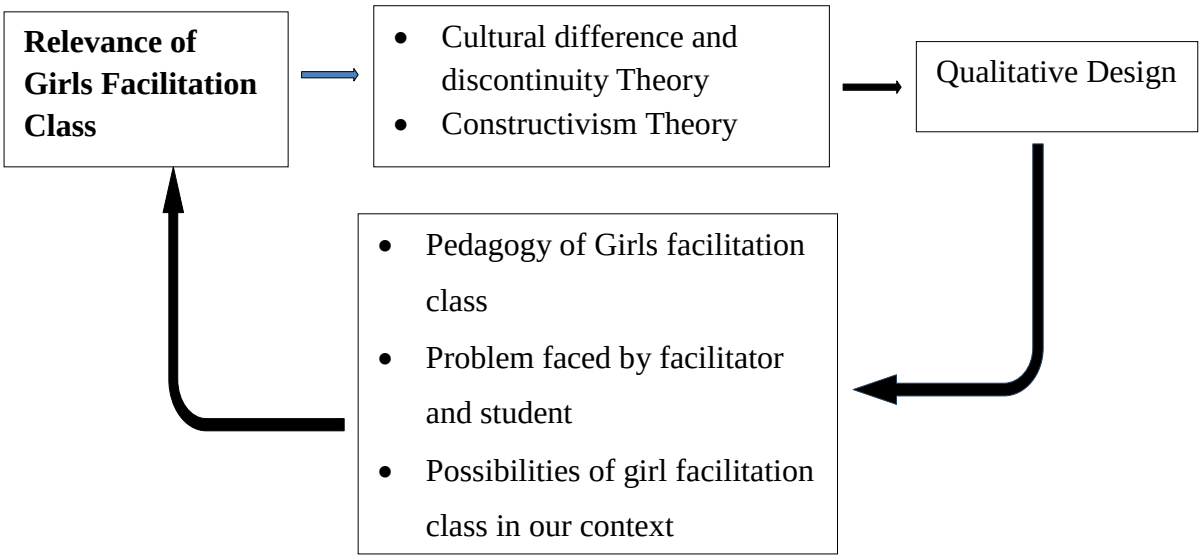


Fig: 1Conceptual framework

The above mentioned a framework was drawn with help of the previous theoretical literature and empirical literature. The researcher collects the data according to conceptual framework heading. This conceptual framework also used for the analysis and interpretation of the obtained data. Many researchers were available in different regions of Nepal. Review of those literatures will give some conceptual understanding about the issues of mathematics learning of girls for the current study. The conceptual framework is presented above.To examine relevance of girl facilitation class, it was based on cultural difference and discontinuity theory of Ogbu and constructivism theory by using qualitative research design under the topic: pedagogy of GFC, problem faced by facilitators and student to conduct GFC and possibilities of GFC in context of Nepal.

This study is based on marginalized group of girls, who were less valued in formal school system due to theircultural and language differences, poorfamily background, and so on. According to John Ogbu (1982, 2000, 2001), learning is the product of cultural and language differences. And also he emphasizes on the nature of relationship between the cultural language of disadvantaged dominant groups cultural discontinuity theory deals with the problems in children's learning caused by difference and discontinuity between the culture of home and school. And also according to Constructivism is a theory of knowledge that argues humans generate knowledge and meaning from an interaction between their experiences and their ideas. Learning means the relatively permanent change in behavior, which occurs as a reinforced practice. These two are directly related to my study and these theories help me to achieve my objective so I choose these theories for my study.

CHAPTER III

METHODS AND PROCEDURES

Research methodology refers to how we gain knowledge about the study and how we collect the data (Bailey, 2011). A scientific way by which a researcher gets the systematic knowledge of a particular subject with cause and effect is known as methodology (Acharya, 2011).

Research design

According to Encyclopedia, "Research design is a systematic plan to study a scientific problem." It concern with what, whom, and why of research. There are mainly three type of research design-qualitative, quantitative and mixed-method (Creswell, 2009). My study is study of relevancy of girl facilitation class at secondary level mathematics. It's qualitative research design.

It would not be possible for me to quantify data in figure and numbers and not possible to use for inferential statistical so I have used qualitative research design.

The qualitative research that used context and setting to search for deeper understand of the person being studied (Best and Kahn, 2006). A qualitative research design is a procedure for collecting, analyzing, qualitative data, in a single study to understand a research problem. In qualitative inquiry descriptive as well as explanatory research design was adopted.

Study site

Girl Facilitation Class is implemented only in Kailali district in Nepal, so Kailali district is the study site of my research.

Sample

Qualitative researcher usually works with small sample of people nested in

their context and studied in depth (Miles and Huberman, 1994). It is a small portion of population on which information is obtained, analyzed and interpreted (Acharya, 2011).

I had selected two schools, two facilitators, three staffs of FAYA Nepaland 34 students as sample for my study. Schools were: Shree Pahalmansingh Memorial Higher Secondary School, Pahalwanpur and Shree Rastriya Higher Secondary School, Shukhad.

Sampling Procedure

Qualitative research most commonly used methods are Quota sampling purposive sampling and snow-ball sampling. In this study purposive sampling method is used for selecting sample schools.

For focus group discussion 10 participant student from each GFC implemented sample schools were selected by snow-ball sampling. For class observation, one month class observation of sample school were taken and interview with staffs of FAYA Nepal, mathematics facilitators and 14 students of girls facilitation classes were selected by Quota sampling. Then I had interpreted and analyzed data with the help of theories mentioned in literature review.

Research Tool

How can data's be obtained? Whether we can obtain our objective or not, it depends upon the research tool. Tools are different according as research design. It's a qualitative method research so qualitative tools were required to fulfill this study. For data collection: interview with staffs of STEM Project of FAYA Nepal, mathematics facilitators and students, class observation and focus group discussion were the main tool of the study.

Interview

Qualitative research needs natural setting data. Thus interview stands as one of the prime source of data collection. It gives depth understanding of the problems and identifies key information for the solutation. But open indeed interviewing is not to put things in some one's mind, to access the prospective of individuals being interviewed. Interview such highly purposeful task that goes beyond more conservation (Anderson, 1998).

In this study, interview was carried out with two facilitators and 14 students on the sample school. Interview was taken for assess pedagogy, to explore difficulties faced by student and facilitator and possibilities of GFC. The interview has covered the following aspect:

- Problem related to mathematics learning
- Problem related to used pedagogy used by facilitator and facilitating content.
- Problem related to evaluation of students
- Problem related to students motivation
- Problem related to regularity in class

I had done interview with staff of STEM Project of FAYA Nepal about the possibilities of girl facilitation classes using guideline.

According as guideline, I have taken almost 14 student's interview whom were girls of girl facilitation classes, two mathematics facilitators' interview and three were staff of STEM project of FAYA Nepal.

Observation

Observation also enables a researcher to look a fresh at every day behavior that otherwise might be taken for granted expected to go unnoticed (Cooper and Schindler, 2001). Observation class will be observed directly and indirectly.

A classroom observation is a formal or informal observation of teaching while it is taking place in a classroom or other learning environment (http://edglossary.org/classroom-observation/).

With the permission of sample schools' administration and facilitator I have done one month participant observation that is eight classes are recorded here for my study. I have observed from 05 June 2015to 03 July 2015 by using observation guideline. First two weeks were observed in Shree Rastriya Higher Secondary School and last two weeks were observed in Shree Pahalmanshingh Higher Secondary School.

Focus Group Discussion

A focus group discussion (FGD) is a good way to gather together people from similar backgrounds or experiences to discuss a specific topic of interest. The group of participants is guided by a moderator (or group facilitator) who introduces topics for discussion and helps the group to participate in a lively and natural discussion amongst (odi.org/publications/5695-focus-group-discussion).

In this study, focus group discussion was made among those both GFC implemented sample schools. A focus group discussion was held among a group of ten students. In the focus group discussion, there will be two facilitators, one have discussed on problem with participants and next noted their views. Participants were given the question in group about the difficulties of students on: learning, interest of student, pedagogy used in GFC, regular participation and also difficulties due to facilitator, answer were noted. Firstly one question was given and noted the view and similarly next and next question were given to the participants using focus group discussion guideline.

Quality Standard

After completing the construction of the research tools, it is necessary to maintain quality standard. For quality standard I had used member checking and triangulation. For quality standard I have concern with the expertise.

Data collection Procedure

By using the classroom observation guideline, I observed the mathematics classes in sample school. The observation was participatory. It was believed that performance of the class was usual because I convinced them that the objective of observing the class was purely academic. The unstructured interview was also taken with facilitators, students and staff of FAYA Nepal. And also for focus group discussion with students, I have used focus group discussion guideline.

Data Analysis Procedure

In the qualitative research design dates are gained and analyzed by descriptive and interpretive method. Primary data were organized according to individual responded on interview, observation and focus group discussion. Than in second stage data were analyzed and described. And then I had interpreted those data, supporting with theories and literature mention on literature review section.

CHAPTER IV

ANALYSIS AND INTERPRETATION

This chapter is mainly devoted to the analysis and interpretation of the data collected from the classroom observation and interview and focus group discussion. As mentioned in the literature review section, I used different theories for the analysis of field data. To obtain the objective or to answer the research questions, I processed the data and classified them into three different topics viz. Pedagogy used by mathematics facilitators to facilitates GFC, difficulties faced by teachers and students to conduct girl's facilitation class, Possibilities of girl's facilitation class in the context of Nepal. In order to obtain these objectives, facilitation classes of Shree Rastriya Higher Secondary School, Sukhad and Shree Pahalmanshingh Memorial Higher Secondary School, Pahawanpur were observed. The information was collected for answering the questions related: pedagogy, difficulties faced by teachers and students and possibilities of girl facilitation classes.

The main tools used to achieve this objective were observation, interview and FGD. Total class observation wasone month that is eight classes where two classes in a day were observed. Interview withboth school's mathematics facilitators, 14 students and three staffs of FAYA Nepal, focus group discussion was held among a group of 10 students on both schools. The data obtained from the study presented below.

Pedagogy used by mathematics facilitators to facilitates GFC

The main focus of this study is to assess the pedagogy used in facilitation. So the main source of information for this objective is class observation and interview. In order to obtain to this objective, I have observed two class of a day of both sample

Schools: Shree Pahalmansingh Memorial Higher Secondary School Pahalwanpur and Shree Rastriya Higher Secondary School Shukhad.

Observation-1

First day, I observed the class of Shree Rastriya Higher Secondary School Shukhad. There were two sections of Club-C, they are C_1 and C_2. I observed $C_1$and collected information from the classes to trace out the actual condition of the classroom.

My first observation class was in club C_1. Each section contained 50 or less than 50 of students. Club C_1 had 40 students in total. Desks and benches were arranged in three rows with 10 pairs of desks and benches in each row. The benches were quite long where four or five students could manage to sit properly without any disturbances. The class was appropriate for facilitation. Classes were well managed. Desks and benches were well managed in rows and columns. Doors and windows were also appropriate for the rooms. Black boards were replaced by white boards in classes. The classroom was the example of mixed culture. Different students from different community and different culture had gathered together for facilitation.

The facilitator who interned in the class, was good looking, well dressed, not aggressive and pleasant in mood. When the facilitator entered the class, the students stood up and greeted “Good morning sir”. After that teacher also greeted them back and asked them to sit down. After that, he started taking attendance of the students.

That week was first week of that month so they firstly started from jokes. Then which chapters revision is today do you know facilitator asked and student replied yes sir! Revision of last week course ‘Set’. He divided student in different group and started facilitation. There are 40 students presented at that day and he

divided them into five groups, each group contains eight students and choose monitor in each groups.

There was class of Set, Facilitator gave following exercise:

If U= {1, 2, 3, 4, 5, 6, 7, 8, 9}

A= {1, 2, 3, 4, 5} and

B= {2, 4, 6, 8}

Find A∪B and A∩B.

They were started discussion on concept of union and intersection in each groups and facilitator check the answer of each group. Most of the students have misconception on concept of union and intersection where they were repeating the part of intersection then facilitator also solved the same problems on whiteboard as below;

If ∪= {1, 2, 3, 4, 5, 6, 7, 8, 9}

A= {1, 2, 3, 4, 5} and

B= {2, 4, 6, 8}

A∩B= {1, 2, 3, 4, 5} ∩ {2, 4, 6, 8}

= {2, 4}

Then A∪B = {1, 2, 3, 4, 5}∪{2, 4, 6, 8}

= {2, 4, 1, 3, 5, 6, 8}

= {1, 2, 3, 4, 5, 6, 8}

Facilitator was facilitating by using chart paper for better understanding of Venn- diagram and checks their concept by questioning in each step.

Then give question in group wise and discuses personally in group. Although there is some noise while discussing on group and facilitator were not engaged equally in all groups but monitor of the group play the vital role in facilitating.

Facilitator engaged on group and each students individually also. Students were engaged properly on problem and were interacting with both friends and facilitator on problem. Less active student were also active in comparison with other classes they at least interact with friends on problems. Group work and discussion is mainly used there. They were using induction methods.

Students are multicultural background in each group. It seen that Tharu girls especially Kamlari background girls and Dalit families girls are less active in these groups in comparison with others and those who feel hesitation to ask facilitator also actively participating in group and discussing friendly with friend.

These discussing activities were helping students in making concept of $A \cup B$ and $A \cap B$. In the line of Vygotsky social constructivism theory (1978), students can learn anything by interaction and collaboration with each other. Facilitator adopted pedagogy in the classroom also accepted by the Vygotsky theory of social constructivism.

From above classroom activities, it becomes clear that there was proper interaction between facilitator and students, who were from the different Cultural group in the mathematics classroom. There was also group work and discussion is mainly used.

Observation -2

My second classroom observation was also class of Mr. Nara Bahadur Chand in club C_2 of Shree Rastriya Higher Secondary School Shukhad. Facilitator entered the classroom and greeted good morning student, student stand up and said good morning sir. Facilitator replied good morning class and sit down please. He started class as in club C1.

In that class also, there were 10pairs of desks and benches arranged in each three rows. The total numbers of students were 35 with mixed culture group. Doors and windows were also appropriate for the rooms. Black boards were replaced by white boards in this class also. Classes were well managed. Desks and benches were well managed in rows and columns. The benches were quite long where 4/5 students could manage to sit properly without any disturbancesso I can say class was appropriate for facilitation. There are 34 students presented at that day and he divided them in to 5 groups and choose monitor in each groups.

That day, they were discussing on the concept of union and intersection of cardinality related problem. Firstly asked the question "how can we find the cardinality of set if set is given" and discussed on following example:

If A = {a, b} then

n (A)=2

When B= {a, b, c}then n (B) =?

When C= {a, b, c, d} then n(C) =?

From the discussion student were clear that cardinality is number of member of the set.Then they discussion on the formulae of n (A∪B) and n (U) by using chart paper's material of Venn-diagram.

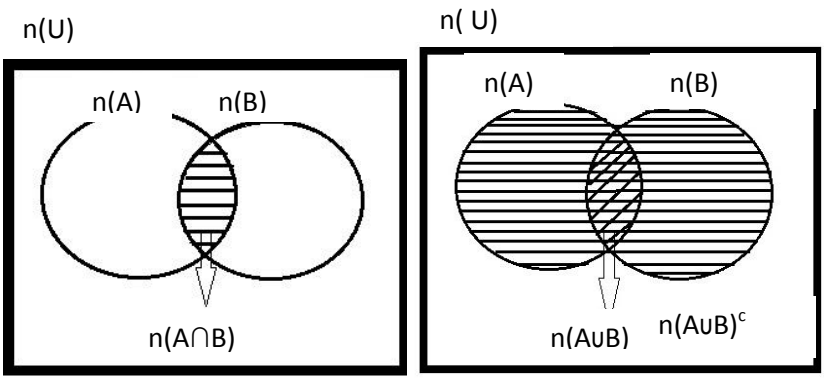


Fig (i): Venn-diagram.

From Figure (i), they discussed that,

$n(A \cup B) = n(A) + n(B) - n(A \cap B)$

$n(U) = n(A \cup B) + n(A \cup B)^c$

$= n(A) + n(B) - n(A \cap B) + n(A \cup B)^c$

From the chart-paper materials discussion on each part: n(A), n(B), $n(A \cap B)$, $n(A \cup B)$, $n(A \cup B)^c$and n(U) from figure.

Students and facilitator followed discussion method of teaching in that class to solve the problems. Facilitator was quite friendly and students also acted as same. This indicated that facilitator cared for all not for only those who are interested to learn. During the attendance time, some students were gossiping and trying to disturb the peace of the classthen he showed the material related to topic and student automatically concentrated on study. Facilitator focused on the problem solving rather giving the lecture method.

Monitor of each group were more active than others. Also it was seen that monitors are discussing on group for eachproblem and also concerning facilitator if problem was not solved by group member. The classroom was not pin-drop silence but not unnecessary noise. There was also group work and discussion is mainly used.

Interaction is an effective way for better teaching learning. It may be within person or in group. Interaction refers to the mental activity with their mind and soul. It depends upon the person's intellectual capacity. Inter-individual interaction refers to the sharing adjustment and co-operation. There were Brahmin, Thakuries, Tamang and Tharus students in the class. Students with other castes were also presented there which made the class a multi-cultural setting. It seen that Tharu girls especially Kamlari background and Tamang families background girls were less active in these groups in comparison with others.

It was seen that those having language problem were less active in that class. For these conditions, Ogbu (2000) elaborates that primary cultural differences may create problems interpersonal relation as well as difficulties in academic work for several reasons. Among them, most important reasons as children with different cultural background start schooling from different cultural world and human relation in school but they get a vast different reality in school.

In this class observation I found that Group work and discussion was mainly used there and interaction is an effective way for better teaching learning. Pedagogy used in this class was proper according as class size and students situation.

Observation-3

My third observation was club C_1 of Shree Rastriya Higher Secondary School Shukhad. Facilitator was Mr. Nar Bahadur Chand. I had observed his previous class of club C_1 also. He started some methods as before. Facilitating method was group discussion, and that day only thirty students were attained due to few members, a class was not interesting asprevious week. He dividedthem only in to two groups and started discussionon the topic unitary method.

Facilitator asked basic concept related questions of unitary method but student cant replied correctly then started discussion as below:

If cost of one pen = Rs100 then

Cost of two pens =2×Rs 100= Rs200 [because cost of two is two× cost of one]

Cost of three pens = 3× Rs100= Rs 300 [because cost of three is three× cost of one]

Cost of four pens =4× Rs100 = Rs 400[because cost of four is four× cost of one]

Cost of five pens = 5× Rs100= Rs 500 [because cost of five is five× cost of one]

And If the cost of five pens = Rs 500, it means cost of five is five× cost of one.

This implies that

Cost of one pen=Rs 500 / 5 =Rs100

Students participate personally and respond on question. They had problem on finding the cost of two or others except one by cost of three or others except one was given. Facilitator used materials while facilitating so it's easy to understand and also discussed on group, by which their misconception were cleared.

Facilitator managed individual instruction for weak student and motivated them for practicing mathematics for in classroom. Facilitator was appreciating them in their correction and motivating them saying such as "yes you can do it", "Good", "Excellent" and so on. Class was interesting as a whole.

The above activities of facilitator and students matched the theory of Piaget (1896), where he is concerned on how child can learn mathematics and what to teach in which situation is very important rather how to learn mathematics. According to this theory children are actively engaged in contracting their actions and the result of their actions that they make as much as science of that environment they can.

From this observation, it was found that facilitator managed individual instruction for weak student and also motivated all students for active participation in class discussion.

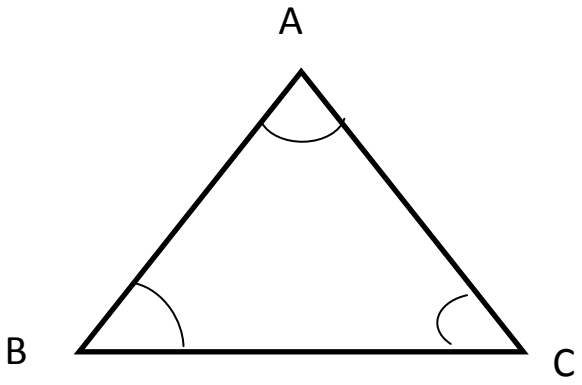
Observation -4

My forth observation was club C_2 of Shree Rastriya Higher Secondary School Shushed. That day due to raining they were sit on meeting hall of school. They were sitting around U shaved table feeling batter then before. Class started as previous. On forth observation they were on the chapter geometry and started the theorem: **Sum of three interiorangles of triangle is equal 180°.**

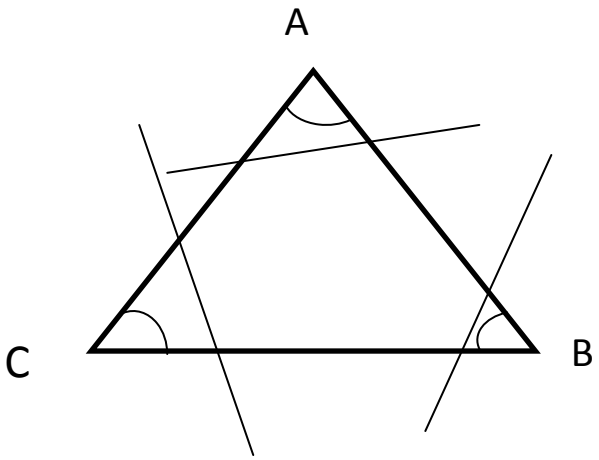
Firstly facilitator just used experimental method. He told student, “Draw triangle on your copy and measure the angle and write. Then add them whether sum of thesethree interiorangle is 180˚ or not.”

Facilitator gave them work in group and they were discussed and replied that some of them did not made sum equal to 180˚. Then facilitator used chart-paper to prove this.

Firstly he draws one triangle and measures them



Then cut out the angle as below. Then show them on straight line from that student were clear on the concept of theorem.



That class was looked as some seminar or workshop. They were just facilitating simple concept of chapter. There is no doubt for support of student by these classes but whether get benefit or not. They were just trying to solve problem by themselves or helps of friend and facilitator.

It seems that something is batter then nothing. Facilitator managed individual instruction for weak student and motivated them for practicing mathematics for in class room. Facilitator asks question in group and gives feedback also.

Observation -5

My fifth observation was in Pahalmanshingh Memorial Higher Secondary School of Pahalwanpur. I meet mathematic facilitator Mr. Kumva Karna Chaudhary of Club C and with the permission of facilitator I observed class. There was only one section club C. I observed club C to collect information from there. When the facilitator entered into the classroom was gentle, good looking, well dressed. All the students stood up and said good morning sir and the facilitator replied saying good morning class. I also entered the class with the permission of the facilitator. I saw classroom was clean. All students were well dressed.

Desks and benches were well managed in rows and columns. Doors and windows were also appropriate for the rooms. Black boards were replaced by white boards in classes. Desks and benches were arranged in two rows with 7 pairs of desk bench in each row. The benches were quite long where 5 students could manage to sit properly. Club C had 40 students in total. Classes were well managed and appropriate for facilitation. In this school classroom was the example of mixed culture as in before observation but most of the students are from Tharu community. Few of them were from Brahmin and Chhetri family backgrounds. Facilitator divided them in four Groups and told them to choose their group monitors. Most of monitor was non Tharu where most of student was from Tharu community. Students of that class seen quit silence and obedient but they were not performing easy to teacher. I feel that Tharu student were having language problem. They started profit and loss chapter.

Facilitator asked, “If I have bought one book on cost Rs 500 and sold that on the cost Rs 600 what will be their either profit or loss?”

Student immediately replied “Rs 100 Profit, sir.”

Facilitator again asked, “If I have bought one book on cost Rs 600 and sold that on the cost Rs 500 what will be their either profit or loss?”

Student immediately replied “Rs 100 loss, sir.”

They discuss on the condition of profit and loss and lastly student found that when profit that, S.P >C.P and when loss S.P< C.P, and concluded from discussion that, profit and loss are based on cost price (C.P.). Then facilitator helps on finding the formula of profit, loss, profit% and loss% and then started discussing on other verbal problem of profit, loss, profit% and loss%.Facilitator tries to communicate with all students equally there was straggle for communicating with all for facilitator. No materials were used in the class.

Students did not understandproperly what the facilitator facilitates in the classroom due to language spoken by the facilitator, and then he told them in local Tharu language. By definition, culturally respective pedagogy refers to the design of curriculum and instruction whose objective is to blind on student’s cultural knowledge.

On the condition of culturally relevant pedagogy Ladson (1995) outline three criteria necessary in the implementation of culturally relevant pedagogy. They were: firstly, culturally relevant pedagogy must result in the academic success of its students. Second, culturally relevant teaching maintains a child’s cultural identity while simultaneously promoting academic success. Third, culturally relevant teaching creates a social consciousness among students allowing them to challenge the

structure of society and view education as tool for social change (cited by Trumbally& Pacheco, 2005).

In this regards, I observed the teaching learning activities of class. Besides this, it seems reasonable to conclude that discussion method was adopted in group. In this class student were so activity so I can say that student centered method was adopted in each step.

Observation-6

In my sixth observation was also same class of Shree Pahalmanshigh Memorial Higher Secondary School Pahalwanpur. Facilitator greed good morning and student also replied. Then he starts the chapter factorization of the form a^2-b^2.

He asked student if $a^2-b^2= (a+b) (a-b)$, then $x^2-y^2=?$

Student replied $x^2-y^2= (x+y) (x-y)$

Then facilitator asked many questions same as above, student replied all of them by discussion on group but when facilitator asked $4x^2-9 =?$

Few of them replied accurate answer of the question then facilitator helped to solve the question on whiteboard by using materials as below;

$4x^2-9$

$=2^2x^2-3^2$

$= (2x)^2- (3)^2$

$=(2x-3) (2x+3)$

Students have problem on made on basic concepts like making $(2x)^2- (3)^2$ form from $2^2 x^2 - 3^2$. Facilitator was facilitating in each step by discussing with student. This class was interesting then before and student responding more than before. Facilitator used some group discussion and problem solving methods.

In that class students were not actively participating in the classroom as before activities but they were concentrating on their study. This class did not match the theory of Vygotsky (1978), which argues that human knowledge originates in socially meaningful activity and is shaped by language. But Gump K.G. Jr. and Mulhari J. (1908) concludes by stating that in using lecture question answer method must make an attempt to involve discussion in the classroom but the discussion is determined and limited by the exposition of the teacher and the blandness of the text book.

I found that somewhere girls have problem in language but interest to participate. Motivating power of facilitator was appreciable.

Observation-7

My seventh observation was also in club C of Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur. The facilitator entered in the classroom and student greeted as usual. Facilitator divided students in five groups and choose monitor and started discussing on the chapter of Algebraic factorization on problem of the form, a^3+b^3 and a^3-b^3. Facilitator used method of deduction on this class.

Firstly facilitator used chart paper materials where formula of a^3+b^3 and a^3-b^3 were written and then hanged that chart paper on Falatin board. Then told to look at formula and asked if $a^3+b^3 = (a+b)(a^2 - ab + b^2)$ and $a^3-b^3 = (a-b)(a^2 + ab + b^2)$ then

$p^3 – q^3 =?$

$m^3 + n^3 =?$

$x^3 – y^3 = ?$

$x^3 + y^3 = ?$

Few of group gave correct answer by discussing with friend. They had problem on deduction of formula so that students may havestarted discussing as gossiping. At the

same time student showed answer,for the wrong answer facilitator gave hints to solve and then they discussed and solved. It seems that students feel hesitation to discuss frankly with facilitator on basic concept. The facilitator motivates them to interact within groups. After motivation students participated in learning process.

These classes are just facilitation not teaching so it seems that those who want to interact on group members and also with facilitator got more benefits then other.

Observation-8

My last observation was also Club-C of Shree Pahalmanshingh Memorial Higher Secondary School Pahalwanpur. Class was started on meeting hall of school. There was no desk and benches. All student set on the flower. That day was found different than before. The hall was comfortable to sit the entire student and it seems very clean.

That day facilitator asked problem related to the Indices, they discuss on them. Facilitator presents material related to topic and then started discussing as below:

$a^m \times a^n = a^{m+n}$

$a^2b \times ab = a^2 \times b^1 \times a^1 \times b^1$

$= a^2.a^1 \times b^1.b^1$

$= a^{2+1} \times b^{1+1}$

$= a^3 \times b^2$

$= a^3.b^2$

Questions related basic concept was raised by student. He described each and every step clearly. There was appropriate environment for among student-student, and students-facilitator.

Banks (2004) states that: from school's curriculum and teaching learning activities, the students from diverse racial, ethnic and social class group will experience educational equality.

The above discussion also indicates that the mathematics facilitator did not neglect the problems of students in mathematics. There is good interpersonal relation with Tharu student and other students in the classroom. Hence there is not cultural and language discontinuity in the mathematics classroom. In this regard, theory of Vygotsky (1978) elaborates the child understanding of how knowledge develops requires an understanding of social and historical origins of knowledge and of changes in that knowledge. Vygotsky argues that human knowledge originates in socially meaningful activity and is shaped by language.

Differences in teaching style, learning strategies, language behavior also cause the difficulty in interpersonal relation which affects their learning. There is not proper communication with mathematics facilitator and Tharu student in mathematics classroom. Facilitator and students behavior in the mathematics classroom shows that they were dominated in mathematics learning process.

Interview with Students

Deepa Chaudary, (Club C1, **Shree Rastriya Higher Secondary School –Shukhad)**

A 14 year old girl, born in Kota, was studying in class nine. Now a day she lives in Pahalwanpur, Kota in Kailali district. She has fifteen members in her family. She is genuine student of her class. She is honest and never talks much with anybody. She is silent, hardworking and laborious student according to her teacher. When I asked her question: how is your facilitator? How does he facilitate you? She replied:

"I think facilitator address our creativity and curiosity. When I felt difficulties discussion to our facilitator personally, here we have chance learn from friends also.

It's easy to me asks to my friend and learn. Facilitator facilitates us good; he encourages us to study hard. Mathematics facilitator is friendly and we don't feel afraid of asking questions to him because he always says that he will describe as much time as we need if we didn't understand any problem."

From this interview it was concluded that, facilitator behaves friendly with students and encourage them so student like him.Students have chance learn from friends also. It's easy to them to discuss with friend and learn.

Radha Bista, (Club-C2, **Shree Rastriya Higher Secondary School –Shukhad)**

A 14 year old girl, born in Narayanpur, was studying in class nine. Now a day she lives in Shukhad - Narayanpur in Kailali district. She has fifteen members in her family. She is average student of her class. Sometimes she doesn't complete her homework and says she asks other friends for help to complete her homework.

When I asked her question:which language does your facilitator use? And how does he facilitate you? She replied:

"*He uses Nepali language while facilitating. Our facilitator makes us understand and to solve the problem by group discussion. In huge classroomit's difficult to participate learning activates so these classes are batter for us."*

From this interview it was concluded that, facilitator facilitating methods discussion and student got benefit from it.

Shapana Bam, (Club C1, **Shree Rastriya Higher Secondary School –Shukhad**)

A 13 year old girl, born in Shurkhet, was studying in class nine. Now a day she lives in Shukhad - Belar in Kailali district. She has six members in her family. She is normal student of her class. Her father is literate and her mother is not educated.She is honest and speaks with everybody. She speaks more in comparison to other

students. About her classroom activities, she says that sometimes other students tease her.

"I don't feel hesitation to share my problem in classroom. In these classes facilitator uses suitable methods and different technique to make us easy to understand. He uses group discussion & problem solving method. We learn and understand properly but there is less opportunity to learn new things or concept."

From this interview it was concluded that, facilitator used uses group discussion & problem solvingmethods to facilitate problems which is appropriate. Vygotsky (1978), problem solving should be under the guidance of a competent or capable peer. Mathematics could be an enjoyable subject if there is expert intervention and is timorously rendered.

Radhika Malla, (Club C1, **Shree Rastriya Higher Secondary School –Shukhad)**

A 14 year old girl, born in Nindi, was studying in class nine. Now a day she lives in Shukhad - Nindi, in Kailali district. She has five members in her family. When I asked question to her : Which method does your facilitator use? She replied:

"I think we get a better opportunity to learn mathematics. I am poorin this subject but I think by these classes I will performance batter then before. He engaged us in group, uses materials for facilitation so we enjoy feel burden in classroom."

From this interview it was concluded that, facilitator and students engaged in group works and used materials by which student enjoyed leaning.

Hema Tamang, (Club C2, **Shree Rastriya Higher Secondary School – Shukhad)**

A 14 year old girl, born in Shukhad, was studying in class nine. Now a day she lives in Shukhad, in Kailali district. She has six members in her family. She is genuine

student of her class. Her father and mother both are educated. When I asked question to her: Which method does your facilitatoruse? She replied:

"Most of time our facilitator uses group discussion. I got equal chance to participate in group discussion so I think facilitation method of class is suitable for us in comparison with school class of same facilitator."

From this interview it was concluded that, facilitator facilitate batter then other teachers and also gave equal chance to participate group discussion.

Mahima Chaudhery, (Club-C **Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur)**

A 15 year old girl, born in Ambasha, was studying in class nine. Now a day she lives in Pahalwanpur - Ambasha, in Kailali district. She has seven members in her family. When I asked her, Most of student of your class are Tharu then how does he facilitate you? And which language does your facilitator use? She replied:

"Our facilitator makes us understand to solve problem by using Tharu language if necessary. He uses materials while facilitating so it's easy to understand and also discuss on group by that our misconception was clear."

From this interview it was concluded that, on the misconception of student facilitator tried to clear by using materials and also used their language. John Ogbu (2001) elaborates learning not only as the product of cultural and language differences but he insists on the nature of relation between the culture and language of minority/disadvantaged and dominant groups.

Susila Mahara, (Club-C **Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur)**

A 15 year old girl, born in Baitabi district, was studying in class nine. Now a day she lives in Pahalwanpur-Ambasha, in Kailali district. She is newly married and

has nine members in her family. She is genuine student of her class. She is honest and hardworking also. When I asked her, Most of student of your class are Tharu then how does he facilitate you? And which language does your facilitator use? She replied:

"Our teacher uses some time Tharu language in class room but does not understand our mother language. Sometimes I feel our facilitator behavior towards us is different from Tharu students. He uses materials sometimes but most of time he made us group discussion."

From this interview it was concluded that, facilitator also from Tharu community and he cares Tharu student more than other. Sometimeshe uses materials. Sarwati Kathariya,(Club-C **Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur)**

A 13 year old girl, born in Shisaiya, was studying in class nine. Now a day she lives in Pahalwanpur - Ambasha, in Kailali district. She has twelve members in her family. She is honest and hardworking. When I asked question to her: how is your facilitator? How does he facilitate you? She replied:

"About facilitator, he provides a lot of example uses materials in these classes and also gives us task in group. If necessary he checked personally and corrects our answer so the pedagogy is best for us. Our facilitator manages individual instruction for weak student and motivates us for practicing mathematics for in class room."

From this interview it was concluded that, facilitator motivate student, managed individuals instruction for weak student, provide a lot of example and also used materials so student liked pedagogy.

Niru Chaudhary, (Club-C **Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur)**

A 13 year old girl, born in Jawalpur, was studying in class nine. Now a day she lives in Pahalwanpur, Jawalpur in Kailali district. She has four members in her family. She is genuine student of her class. She is honestand hardworking. When I asked question to her: how is your facilitation class? Does he give you chance to participate in group discussion? She replied:

"About facilitation class; these classes were well managed appropriate for discussion. Group discussions were mostly used. Facilitator asks question in group and gives feedback also. But he took more time to group monitor then others."

From this interview it was concluded that, classes were well managed facilitator took more time to group monitor in group discussion method and give feedback also.

Karisma Chaudhary, (Club-C **Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur)**

A 15 year old girl, born in Kota, was studying in class nine. Now a day she lives in Pahalwanpur, Kota in Kailali district. She has fifteen members in her family. She is genuine student of her class. She is honest. She is silent and hardworking. When I asked question to her: how is your facilitator? Does he give you chance to participate in group discussion? She replied:

"I feel difficulties talking to facilitator personally but I participate in class room discussion our friend helps us for solving mathematics problems. I get equal chance to participate in classroom discussion so I like these classes facilitating methods of facilitator. I take class regularly. It's not sufficient time to learn because it's only one hours of weekend."

From this interview it was concluded that, this discussion methods effectively fallowed by facilitator. She gets equal chance to participate in classroom discussionso student wanted more time to learn.

Interview with Facilitator

Interview with facilitator of Shree Rastriya Higher Secondary School, Shukhad

An interview was taken with mathematics facilitator of Shree Rastriya Higher Secondary School, Shukhad. There are two facilitators and I got an interview with Mr. Nar Bahadur Chand. He was permanent in schooland having 15 year of teaching experience. I asked question to him from interview guideline he replied as below.

"*Girls facilitation classes are held for batter performance of girls in mathematics so in these classes material basis pedagogy are used. These classes makes them easy to understand basic knowledge and also helps in solving there mathematic problems. So we mostly use student center methods. It depends upon nature and difficulties level of problem. We are guided to use group discussion methods,quiz methods and project work methods from FAYA Nepal also*."

I think, facilitation class brings there positive attitude towards mathematics. They are more active than before and motivated in mathematics learning. Student of the class are from different cultural background. So language is also one problem in these classes.

Interview with facilitator of Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur

An interview was taken with mathematics facilitator of Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur. He was also permanent teacher of same school and was teaching there from 2060 to till now. He was facilitating these facilitation classes from last year. There are two facilitators and I got an interview

with Mr. Kumbh Karna Chaudhary, I asked question to him from interview guideline he replied as below.

"We have only one section on club –C there are almost 35 girls most of them are from Tharu community and parents are almost farmer so they were also work in field with her parents as possible, after the school. They have not sufficient time for the practice in mathematic there for they are poor in mathematics. And some were married also. So we have to use materials as much as possible otherwise they didn't give attention in class. Mainly we used student central method. We engaged them in group work. Group discussion method applied. And give them c chart paper for solve and some time we hang them side white board if necessary. In each groups I give different set of problem to solve and facilitate them each individual group separately, also some time I use project work method and sometime quiz also. But frequently use group discussion method is adopted."

From the above interview I found that some students were interested in mathematics but others, feel difficult in solving the problems of mathematics. They were found interested in doing any of the exercise. Some of the students get good result in mathematics while some feel mathematics as a difficult subject. This is happening because of the differences in the capacity and capability of the students. It can be said that facilitation classroom pedagogy was relevant according as their class size, number of student and availability of material.

Difficulties faced by students and facilitators

The project supporting education of marginalized girls in Kailali provided girls facilitation class through FAYA Nepal. These classes are provided for poor marginalized and disadvantage group of girls in order to improve of our quality of school mathematics education girls should be able to performed better in school

mathematics. These classes are supporting girl's education but there is also some struggle for both student and facilitator while conducting classes.

The second objective of my study was to explore difficulties faced by students and facilitator to conduct girl facilitation class.

From the observation it was found that, classroom management, environment participation of student and facilitators in group discussion are the challenging issue for mathematic facilitator. Proper classroom management and well environment ensures the learner to have better performance. When I observed class I show mathematics facilitator give suitable and relevant example and sometimes used Tharu language with Tharu student to understand properly. It seems that, language was not major problem in these classes somewhere they felt difficulties to learn mathematics due to problemof facilitating methods in school. In facilitation class, it was found that some student have problem on regularityonclass. Most of uneducated Tharu parents did not want to send their children in school on Saturday class. They forced their girls to engage in household and agricultural work. Pedagogy used in these classes was proper according as size but less active participate of student also create difficulties for student and facilitator both.

When I observe class,it was found thatstudent have problem in translation of verbal problem to symbolic forms they understand contain of facilitation in facilitation class but could not solve same other problems themselves.When I asked question about their difficulties inregular participation, their interest in facilitation class and facilitating contents.

Interview with Facilitators

When I askedfacilitator: What difficulties do the facilitators and students face while conducting facilitation class? He replied:

*"Our students are in average in the classroom. They are neither best nor bad in the classroom. Sometimes theydo not understand the basic concept of mathematics and have language problem too, so sometimes they use their mother language in classroom for conversation. Classroom is multi cultured and students use different languages for conversation. I can't understand what they speak. And I guess they also feel difficult in understanding of problem. So, some of the students do no interact with me while facilitating. I should have to encourage them to ask the questions***."**

(Facilitator: Nara Bahadur Chand)

From the interview of facilitators it found that, there are many problems for marginalized girls in classroom. They are linguistic problem, poor economic condition of family, poor class room environment. Especially Tharu children, Tamang children could not speak Nepali correctly. Vygotsky (1987) had mentioned that,it is necessary to establish obstacles and difficulties in teaching, for the same time providing student with ways and means for the solution of tasks.

When I asked same question to next facilitator: What difficulties do the facilitators and students face while conducting facilitation class? He replied:

"More than 80 % of the students are Tharu in our classrooms. Most of the Tharu in students from are very weak in mathematics. They don't have proper basic concept mathematics. But some of the selected students from the same community are extra ordinary, intelligent and talent in mathematics. We don't have to describe the problem again and again to them. Mathematics being difficult subject to understand by students, also they have to give more time to practice mathematics for better result. The students from that community don't get time to practice mathematics because of household works. Most of the students have to help their parents in their household works and agriculture. Some have to stay in shop and some have to feed the domestic

animals in time which doesn't give them time to practice mathematics.Most of the students have faced problems in mathematics. And, talking about Tharu students, there are many problems of Tharu students at mathematics classroom: Languages, irregularity in homework, carelessness in study, behavior, culture etc. Tharu students are doing progress in their study. Sometimes they talk in their own language and create misunderstanding in communication. They create unnecessary disturbances in classroom by speaking unnecessary things in the class." **(Facilitator: Kumva Karn Chaudhary)**

From interview of facilitator, they talk in their own language and create misunderstanding in communication due to, household works, Languages, irregularity in homework, carelessness in study, behavior, culture etc.

Interview with students

Sunita B.K., (**Rastriya Higher Secondary School Sukhad**)

A 14 year old girl, born in Narayanpur, was studying in class nine. Now a day she lives in Shukhad – Narayanpurin Kailali district. She has nine members in her family. She is genuine student of her class. She is honest. When I asked question to her: how is your facilitation class? She replied:

"S*ometimes he makes us involve in Extra Curricular activities related to mathematics. We get a chance to learn new experiences through it. We have got one hour extra class in in the weekend especially for mathematics. We are provided facilitator to facilitate during that time also we didn't have to pay amount for that class."*

It can be concluded that, student get chance to learn new experience from Girls Facilitation Class (GFC), so due to class running she has not any problem.

Gita Paudel, (**Rastriya Higher Secondary School Sukhad**)

A 15 year old girl, born in Shukhad, was studying in class nine. Now a day she lives in Shukhad in Kailali district. She has six members in her family. She is average student of her class. Sometimes she doesn't complete her homework and says she asks other friends for help to complete her homework. Also she has to work in field after school.When I asked question to her: How is your facilitation classroom? Are there any difficulties due to classroom?

"*Our classroom structure is good, it's comfortable & well-managed. Our board position is also good in a classroom and is appropriate for facilitating so for me, there is no difficulty due to class room. But I have to work in field so some time I can't take class due to time."*

It can be concluded that, classroom was appropriate for facilitating and they did not face any problem due to class room. She has to work in field so some time problem is due to time.

Puspa Bista**, (Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur**)

A 15 year old girl, born in Darchula district, was studying in class nine. Now a day she lives in Pahalwanpur – Valauwa in Kailali district. She has seven members in her family. She is also average student of her class. When I asked question to her: How is your facilitator? Is there any difficulties due to facilitator or his facilitating method? She replied:

"Our mathematics facilitator is very good. He advises us to walk in a right way not in bad way. Facilitator facilitates us good; he encourages us to study hard. Mathematics facilitator is friendly and we don't feel afraid of asking questions to him

because he always says that he will describe as much time as we need if we didn't understand any problem."

It can be concluded that, mathematics facilitator was student friendly and also described as much time as they need so student liked him.

Rashila Chaudhary**, (Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur**)

A 16 year old girl, born in Jabarpur, was studying in class nine. Now a day she lives in Pahalwanpur - Jabarpurin Kailali district. She has eleven members in her family. She is also average student of her class. When I asked question to her: How is your facilitation content? Are there any difficulties due to facilitator or facilitating content?

"Our economic condition is neither poor nor rich. I get every basic thing that I need for my study. And also I feel difficulty to communicate with my friends and facilitator because of my pronunciation and speech which produces Tharu tone. They tease me sometimes for being Tharu. I feel difficulty in understanding their language. Most of the Tharu student feels mathematics as a difficult subject due to various reasons such as lack of tuition opportunity, poor economic condition, lack of educated people at home, due to the traditional culture and poor language."

It can be concluded that, student had problem due to family economic condition, lack of educated people at home, due to the traditional culture and poor language. They feel facilitating content as a hard content. Ogbu (2001) explained that, unmatched home culture and school environment influenced in learning school culture reflect the value of belief and tradition of the school community delineating the relation among students, parents, and teachers.

From theinterview of student of facilitation classes it can be concluded that they had problem in Saturday in class some times. Also feel hesitation to ask basic concepts on these classes but seen that facilitator encourage and motivate to ask question. There was also other community children, they had also problem due to poor family background and discrimination of family between sons and daughter. Tharu Student feel difficulties in speaking Nepali language because they spoke their own language most of time in class also They also told that, language was problem for some of our friends but facilitator facilitating as possible in their own language, it seems thatfor otherslanguage was not the problem. Ogbu (1982) that the culture of home may face difficulties their culture the cultural differences between home and school can influence child's learning due to the school environment, teaching procedure ,different classroom activities, teaching style, relation with different unknown person affect mathematics learning.

Focus group discussion

To obtain second objective, I had done focus group discussion in both sampled school on difficulties faced by students and facilitators to conduct GFC.

Focus group discussion of Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur

I had gathered a group oftenstudents for FGD from the girl facilitation classes, I have asked questions about difficulties faced by student and facilitator when conduct facilitation, their interest and attitude towards facilitation class, their views were summarized as below;

Most of them were from poor economic background they had to work in field before and after school so they felt tired. And also they had come in school without tiffin so they feel hungry on facilitation class. Some of their parents did not

understand about the off time school class. On the contain matter they do not know basic concept and feel hesitation to ask but facilitator encourage them to ask question and interact with friends. Students have also problem in regularity in class and problem in language. Vygotsky (1978) argues learning as an activity in which shared mathematical meanings are constructed socially. He emphasized the social aspect of learning and the interplay of speech and action in children's learning activities

Focus group discussion of Rastriya Higher Secondary School, Sukhad

Focus group discussion of Rastriya Higher Secondary School, Sukhad was held on the group of ten student they were asked question related to difficulties of facilitation classes materials, their interest and attitudes towards these facilitation cases their views were summarizes and noted as below;

They like facilitation classes and understoodcontains of facilitation batter then their class teaching. They have problem in basic concept of mathematics on which facilitator helps them and motive to do better performance. They did not have problem in facilitator's pedagogy. Facilitation classes of mathematics held only one hour of week at weekend. They have problem in time it's difficult to learn broadly about whole week's basic concept in one hour of a week end.

From the focus group discussion it can be concluded that students have problems in mathematics classroom such as language, economic status, home environment, classroom environment, student's activities, etc. which has developed negative attitude to the students in the school psychologically for learning mathematics. The facilitator and students were minimizing difficulties in teaching and learning mathematics. On the same matter According to Vygotsky (1978), cognitive skills and patterns of thinking are not primarily determined by innate factors, but are not the products of the activities practiced in the social institution of the culture in

which the individual grows up. In his theory, rich social and cultural contents profoundly affect children's cognition. He argues that learning was not simple the assimilation and accommodation of new knowledge by learners: it was the process by which learner were integrated into a knowledge community. The school is mini society. The minority in the school, they have their own distinct language, culture and custom, tradition which directly and indirectly creates problems in learning mathematics at classroom.

Possibilities of Girl Facilitation Class

Third objective of my study was to examine the possibilities of girl's facilitation class to obtain this objective, I had asked question about the possibilities of girl's facilitation class to the programme coordinator, programme officer and social mobilizer of STEM project and facilitator of GFC. Their views were summarized below;

Interview with facilitator

When I asked question about the possibilities of girl's facilitation class to facilitator Mr. Kumbh Karn Chaudharyof Shree Pahalmanshingh Memorial Higher Secondary School, Pahalwanpur, he replied as below;

"*More learning opportunity should be created for Tharu students by facilitation classes. Rate of leaving school due to failure in mathematics might be improved by GFC. Facilitator behavior and encouragement might bring student positive attitude towards mathematic. It might arise curiosity and might become active in other classes as well as self-study. Although there are fewer materials for facilitator so these classes encourage school administration to purchase and use such teaching materials in their usual classes. Because facilitator are school mathematics teacher, they use materials in theirs facilitation class it means their behavior are*

changing by facilitation classes. Tharu children, as the minority in the school, they have their own distinct language, culture and custom, tradition which directly and indirectly creates problems in learning mathematics at classroom. Learning activities should be done in small groups because it is impossible to make readiness of all children for some time and some experiences. Absence of proper guidance, learning environment of classroom was disturbed. The culture of home environment and classroom environment of students were different which created problems for learning."

From the interview of facilitator it was found that these classes also help teachers when they face problem in selection of suitable teaching materials and methods. On Vygotsky (1978), constructivism is a theory of knowledge that argues humans generate knowledge and meaning from an interaction between their experiences and their ideas. Facilitator got idea of how to use materials properly and engaged student in group. Learning is not only the product of the culture and language but also create through practice.

Opportunity of participation on learning is main thing which was created by GFC. Most of the students of the GFC were from the family of under poverty line. They had to worked in the filed even by leaving the classes of school to helps their family. In such condition these free extra classes got them better chance for their study. These classes were not for only school girls but also for those who were failed in SLC and want to take further education, were also included in out of school (OOS) group that is in club E, so GFC is providing opportunity for girls to improve their condition.

Interview with Programme Coordinator

When I meet the Programme Coordinator Mr. Dharma Raj Pathak on the training of facilitation I asked him question, what are the possibilities of the programme, he replied as below.

"*This programme is for a marginalized girlwho is working with around 7,000 marginalized girls in school and almost 1,300 OOS girls/ women in Kailali. The project was initiated with an inception phase which began in August 2013 and ended when the implementation phase was approved in January 2014. Activities began in February 2014, and the project – under the current timeline, is due to close out in April 2016, with implementation activities finishing in March 2016. We have divided our target groups in two parts one is in school and another is out of school groups for the school girls we had provide them facilitation class on five those are, Mathematics, English,Science, Reproductive health and Life skill. We are supporting schools on construction of compound, distribution of drinking water and building of toilets for the girls. We are providing instruction materials to the school and also help on administrative. For the motivation of girls, we provide them materials like geometry box, chart paper, dictionary and solar lamp too.*

For out of school girls we are providing them awareness of reproductive health and life skill. For the effectively implementation of the programme, we are actively involved in the door to door meeting, parents meeting, teacher-parents association meeting, school management committees meeting"

From the interview of programme coordinator it was found that they would support on the part of construction and instructional and administrative part of school and also provides some necessary materials to girls like geometry box, chart paper, dictionary and solar lamp.

Interview with programme officer

When I asked the question, what are the possibilities of programme to the programme officer Mr. Ratan B.K. He replied as below.

"*These girl facilitation classes are held on 30 schools of Kailali district where disadvantaged (marginalized) group of girls are reading. This programme is for those marginalized girls who are in school and also in out of school. For the school girls from grade six to ten, we are providing facilitation classes on five subjects as club wise our programme is for the welfare of marginalized societies, we have supported girls that providing them facilitation classes, necessary materials and motivated them by providing awards to the best club and school comparing to the other implemented school. We are helping certain amount of fund to school on their constriction parts like as toilet, compound and drinking water which is very necessary. We will add other new programme for school improvement of girl education in school.*

For out of school girls, we have programme from ladies who were failed in SLC but does not interested in school. We provide them, classes on reproductive health and life skills by which they will have batter knowledge for better life and skill. And also who were interested in business or own occupation after life skill training we will provide them desired amount of loan".

From the interview of programme officer, it can be concluded that, the programme is helping on education of girls, administrative and construction part of school, in student motivation, and also part of awareness of society through women.

Interview with Social Mobilizer

When I asked him question about possibilities of girl's facilitation classes of STEM programme to the social mobilizer of FAYA Nepal Mr. Shekher Pokherel. He replied as below:

"*I am social mobilizer of FAYA Nepal till this programme was held on Kailali 2013 A.D. Before this programme I had worked on other programme. The project Supporting the Education of Marginalized Girls in Kailali (STEM) provided Girls facilitation classes through FAYA Nepal with support of UKaid and Mercy Corps, will work with all girls within thirty schools from grades six to ten, as they are all considered 'marginalized', as well as out-of-school (OOS) girls who dropped out from grades six to ten in the last four years. The project is working with around 7,000 marginalized IS girls in Kailali, and almost 1,300 out of school girls/ women. For out of school girls who dropped out from grades six to ten in the last four years and interested on again schooling, will provided facilitation classes for exam preparation and who are not interested on reading will provide training of life skill and reproductive health. Also if they are interested on their own occupation or business after training will be provided certain amount of fund as loan for that. For school girls we are providing facilitation classes on five subjects. We collect their attendance of facilitation classes and best three classes having attendance 70%. More than 70% will be awarded. Student of Kamlari back grounded not having electricity light in home will be provided solar lamp, material like chart-paper Dictionary, Geometry Box etc. Our project is also interested on training of how to facilitate properly for facilitators. Also providing meeting for those girls parents about their educational improvement."*

From the interview of social mobilizer, it can be concluded that they are helping girls in their economic parts, schooling, instructional materials, and so on. It seems that they are interested on adding new programmes for girls' improvement in education.

From the interview of programme co-coordinator, programme officer and social mobilizer, can be concluded that the programme have provided many opportunities to girls from these facilitation classes. It will also help them on other sectors of education like: scholarship, instructional materials and so on.

CHAPTER V

FINDINGS, CONCLUSIONS AND IMPLICATIONS

This chapter includes the summary, finding, conclusion and the implications of the whole study. Whole research is summarized. Conclusion is described from the result of interpretation of dates. An implication of the study is given for the area where this study can be applied.

Findings

From the data collected through classroom observation and interview guidelines to the students, facilitators and staffs of FAYA Nepal, data's are analyzed and interpreted. Findings of this study are given below.

The purpose of this study was to examine the relevancy of girls' facilitation classes of secondary level in Kailali district. I had done analysis and interpretation on the following headings: Pedagogy used by mathematics facilitators to facilitate GFC, difficulties faced by teachers and students to conduct girls' facilitation class, Possibilities of girls' facilitation class. On the basis of analysis and interpretation of the data major finding of the study are as follows:

Group work and discussion is mainly used there. From the class observation I found that pedagogy used in this class was proper according as class size and students' situation. I found that somewhere girls have problem in Nepal language but interested to participate in group. Motivating power of facilitator was appreciable. It can be said that facilitation classroom pedagogy was relevant according as their class size, number of student and availability of material. It seems that Tharu student feel hesitation to discuss frankly with facilitator.

Somewhere student and facilitators have difficulties due to Lack of parent's awareness; interest of the subject matters affects their children to study mathematics

regularity in class because due to low economic condition of students, they have to engage their household work to fulfill their daily needs. Lack of motivation and counseling creates misunderstanding to study mathematics, which makes mathematics is difficult than the other subjects. Domination of language, lack of interpersonal relation, low active participation on classroom discussion, cultural discontinuity, poor economic condition are the main factors affecting in learning mathematics.

It is found that these girl facilitation classes also help teachers when they face problem in selection of suitable teaching materials and methods. Facilitator got idea aboutproper use of materials and how to engage student properlyin group work. Most of the students of the GFC were from the family of under poverty line. They had to worked in the filed even by leaving the classes of school to help their family. In such condition these free extra classes got them better chance for their study. These classes were not for only school girls but also for those who were failed in SLC and want to take further education. Their friends also help them for solving mathematics problems in group discussion. Facilitators manage individual instruction for weak students but gap between bright and weak students is significantly different.

In short, girl facilitation classes are accepted by girls as new opportunity of learning. Teacher is central part of teaching and learning process. The mathematics teacher should be linkage between new mathematical concepts and previously learned mathematical structure for better learning.In the context of Kailali District girl facilitation classes are possible.

Conclusions

After analysis and interpretation of different data it is concluded that Pedagogy used in these girls facilitation class is student centered. Mostly group discussion and problem solving method are usedin mathematics facilitation classes

which are appropriate according to the size of class and number of student in the context of Nepal. These classes are providing new opportunities for learning so these facilitation classes are relevant.

Implications

My research will be the way to improve school level mathematics education of the different cultural background. My research will help in the study of the relevancy of girls facilitation classes. The facilitator preparation about effective pedagogy can be another alternative for improving situation in understanding learning and capacity of children. This inquiry will help to improve our mathematical pedagogy and solve the problems in teaching, learning mathematics. The main implications of this study are as follows:

- My study is helpful for mathematics teacher to understand various difficult level and learning problems of girls.
- This study is important not for only improving mathematical knowledge but also changes our education system and change the policies related to girls and woman.
- This study is useful for the researcher's, parents, teachers, policy maker's mathematics educationist, woman empowering institutes and even girls to choose the best way of learning.
- The curriculum planners, the text book writers and educational planners may get some useful information to improve their field.
- It is helpful on making our mathematics learning student friendly and to understand all the students from different cultural background.

- The teacher should recognize the students' needs, their potentialities and adopt the student centered teaching methods. In this direction, this inquiry will applicable for the teachers.
- This study is helpful for school mathematics teacher’s professional development because due to the lack ofmathematics teachers’ pedagogical knowledge, school mathematics is being a hard subject for students.

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Appendix-1

Interview guideline for Teachers

- Problems related to facilitation class and their interest in subject difficulty.
- Problem related to used pedagogy
- Problems related to student interests and motivation.
- Problem related to mathematics learning
- Problem related to evaluation of students

Appendix- 2

Interview Guideline with students

Name of student:

Class:

Position in Class:

Address:

The interview with the student can be taken on the fallowing main topics;

- Problems related to mathematics learning.
- Problem related to Pedagogy.
- Problems related to classroom language.
- Problems related to student participation and interests.
- Problem related to facilitation matter.

Appendix-3

Class Observation Guideline

The purpose of this class observation is to how the teachers use pedagogy while facilitating GFC, it based on fallowing criteria.

- Opportunity of freedom, fairness, equality, equity and children s culture friendly.
- Students' interest and active participation.
- Knowledge for facilitating competency of the teachers.
- Valuing the student capacity.
- Using student as a resource.

Appendix-4

Focus Group Discussion Guideline

The purpose of this class observation is to what difficulties faced by facilitators and students to conduct GFC, it based on fallowing criteria Problems related to mathematics learning.

- Problem related to Pedagogy.
- Problems related to classroom language.
- Problems related to student participation and interests.
- Problem related to facilitation matter.
- Problems related to facilitation class and their interest in subject difficulty.
- Problem related to Knowledge for facilitating competency of the facilitator