

DIALECTICS OF MY PROFESSIONAL LIFE: A CRITICAL
AUTOETHNOGRAPIC INQUIRY

Dilip Kumar Acharya

A Dissertation

Submitted to

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In partial fulfillment of the requirements for the degree of
Master of Education in Mathematics

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DECLARATION

I hereby declare that this dissertation has not been submitted for candidature for any other degree.

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Dilip Kumar Acharya

November, 21, 2013

Degree Candidate

DAIDICATION

To my father and mother who helped me in my learning phase, suggested, and cared for me in every situation. And to my lovely sisters Dipa and Mirinja (Daya), who inspired and helped me to join KU to shape my educational journey.

AN ABSTRACT OF THE DISSERTATION OF

Dilip Kumar Acharya for the degree of *Master of Education in Mathematics* presented on November, 21, 2013.

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This dissertation portrays my lived experiences in educational journey and makes an exploration into my pedagogical practices as a student, teacher, teacher trainer and novice researcher. In this research, I have presented my experiences acting as a student, acting as a teacher and acting as a novice researcher. While presenting my different experiences, I found my professional life carrying different perspectives, so it relates with my pedagogy practices. While presenting my experiences as a student, I found I was playing the role as an oppressed learner. At that time, I thought mathematics is carrying absolutist term but when I present my experiences as a teacher then my role was found to be an oppressor. At that time I think mathematics is an incomplete and everlasting process (Ernest, 2005). At last, in the researching phase, I came to know about the cause of the oppressing situation. It relates to our pedagogical practices, relationship between students and teachers, active learner, classroom environment, students centered pedagogy. It will help me to develop as a transformative learner (Habermas, 1972) and critically examine my value and practices. In this research study, I used multi paradigms to shape my dissertation under autoethnography method. I have used postmodern approach with multiple

genres of writing such as poems, narratives. The aim of my research work was to find out why students like me found teachers' behavior oppressing. When I prepared the proposal of my research work, I had only the experience of being a student at different levels. During that time, I thought I was oppressed by the teachers and then when writing this dissertation I get involved in the teaching field and got the experience of teaching. Now the observation and experience helped me to produce the data and critically analyze them.

When I started teaching, I found my behavior to be also like that of my teacher, where I also oppressed my students due to their less interest in the study. And I thought it was a cyclic process of education. But when I came to the researching phase, I observed the practice critically, and came to know that it was guided by the pedagogy of the oppressed. I realize that educator and teacher must focus on children's interest, they should know children's intelligent, they should play different roles at different times. And we have to follow constructivism and collaborative approach. Most of the teachers are habitual to their daily teaching but students are new for the class. So, teachers can teach students at the students' level of understanding. Moreover, the relationship between students and teachers should be close so that students do not feel any kind of discrimination from their tutors. Similarly, teachers can create a student centered learning environment, establish better relationship with students, give practical education, involve students actively in classroom activities and promote meaningful practice.

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dissertation to any reader upon request for scholarly purposes.

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ACRONYMS

BA	Bachelor of Arts
LHS	Left Hand Side
OLE	Open Learning Exchange
NCTM	National Council of Teachers in Mathematics.
INGO	International/Non Governmental Organization
NGO	Non Governmental Organization
MEd	Master in Education
IA	Intermediate in Arts
SLC	School Level Certificate
KU	Kathmandu University
RHS	Right hand Side
TU	Tribhuvan University

CHAPTER I

MY JOURNEY TOWARDS ACADEMIC LEVEL

Chapter overview

I begin my research reflecting on my own learning experiences that shape the background of the study. This section also contains a narrative that reflects the details of lack of understanding that I have faced in my own learning journey. The statement of the problem deals with why I feel (as a student) different in the same class; why I do not understand as equally as others when taught by the same teacher; and what causes my less comprehension in comparison with other students. This section also includes the background of my research question, purpose of the study, research questions, significance of the study, and delimitations of the study.

Background of the Study

Twenty five years ago, my family members and relatives believed that a first baby born at my home. They thought after my birth that it was me. All of my family members and relatives also talked excitedly that some outstanding achievements I would have. But I have not been able to have any greatness yet.

So, I have been conscious of my present situation. Sometimes, I become hopeless because I have not been able to meet their expectation. I mean that I'm neither stupid nor clever, neither active nor lazy. I think my mind is not bright. As a result, I cannot identify my qualities. It was true that I was talented in my childhood. In the course of time, my personality, physical appearance, and feelings have also changed. In my adulthood, I was interested in different things like sports, dance, visiting to place, music rather than study. So, I could not do well in my study. I

always thought about the things that occur or happen in everyday life. I did not manage my time for study. It was very difficult for me to concentrate on my study. I found that the study would be boring and other activities would be very enjoyable. By and by, I went on being naughtier. Maybe it was because of being the only son in my family and getting freedom at all times. When I studied in private schools I was considered talented and intelligent. But later on, I went on being weaker in study because of my inclination towards other things. Both of my sisters were more talented in comparison with me. I used to feel shy to show my performance.

People/some of my friends, relatives and neighbors said that I could be very intelligent because of my parents' inter-caste marriage. In our society, people think that a child who gets birth from the parents belonging to different castes has sharp intelligence. On the other hand, I am also a lefty (left-handed person). I always used left hand to write, wash, eat, etc. When I turned 14, I started using the right hand to eat meal because of parental force. Many people told me that Einstein was also a lefty. He used to smoke his pipe with his left hand. So, they compared me with him. Some of them hoped that I could be extra minded in future. But in reality, I am different from their expectation. I mean that I have not been able to meet such expectations therefore, I am trying to find out the weaknesses of mine and of other students like me and find a solution to them.

It was Magh¹ in 2055 and I was a student of grade six. Many students were busy playing games and teachers had gathered in a place to get the warmth of the sun. The principal and others would also be there. One day, my math teacher talked to the principal and other teachers about my study and other activities. According to him, I was different from other students. I was different in the sense that my study was poor

¹ Nepali Month

because I did not show any interests in learning. Then I was worried about mathematics learning. In fact, I could not understand any teacher's classes. So, I could not improve my study although the teacher tried several times. Afterwards, some questions arose in my mind, such as why didn't I understand anything well? Why wasn't I interested in study?

In school life, we would attend the assembly. Sometimes, we would do physical exercise. One day, I faced a difficult situation when I was called to sing the national anthem. At first, I thought I was better than others, I felt nervous to be in front of the students and sing. However, I was obedient to my teacher, yet I could not do well. Afterwards, the teacher scolded me and also blamed me for my carelessness.

In the classroom, I had the problem of nervousness. When the teachers gave us assignment I did not care much about it, but at home, I was not sure about it and I had to ask my friends to know the given assignment. These kinds of problems always occurred. When I was studying in grade seven, I would study loudly because my mother wanted me to do so. In my mother's view, reading with a loud sound would help focus on active learning. If I didn't obey her, she would think that I slept or felt sleepy but I had the habit of silent reading. My mother is not only a good housewife but also very careful about everything. She helped me find a solution to the problem of any subject. My father would always be busy with his work. One day, my mother taught me multiplication table. Even after learning it, I could not memorize it properly. Then she started blaming me for my weakness in learning math. But she did not say anything about my ability to concentrate.

My friends helped me to improve my performance. They gave me some suggestions and ideas to grasp the same thing which was easily understood by them. I

did not feel comfortable in learning phase in classroom and I was less interest in mathematics learning.

A teacher needs to know about children's psychology. When I saw a movie "Tare Jaminpar" (one of the hindi movies), I learned many things from it. In the movie, one of the children was less interested in study and the society consisting of parents, school committees and teachers played negative roles for that student. They did not search child's behavior; they did not focus on child's intuition. When the parents searched the suitable school for the child, one of the schools agreed to admit that child. One teacher was able to observe the interest of the child. He found his interest in drawing. At last, the boy won the drawing competition. From that movie I understood that when teachers are close to their students, the teachers will be successful in their fields. We have to be conscious about child psychology.

After completing my Bachelor level, I worked as a teacher in a lower secondary school in a village for some months. When I studied bachelor level, I was not satisfied with the mathematics course. So, I was searching new dimensions of the education field. After joining MSc in Mathematics for some months, I changed my view towards mathematics learning. In this class, I used to think why I was taking the rote learning concept. Therefore, I decided to leave this college and searched for new education system. In the course of time, I got a chance to get the enrollment in Kathmandu University.

In B.S. 2069, Baishakh², Research Methodology class began and the instructor gave us some assignments. I tried my best to choose a suitable research topic relating to our problem. I tried several times thinking about it deeply but I could not find any suitable one due to my first experience of these types of work in my student life. After

²First month of the year according to Nepali calendar

that when the research period started, I felt very bored and had the problem of research, especially selection of the topics.

The third semester was very problematic for me. After getting enrolled in Kathmandu University, I had been hearing more and more things about dissertation. My friends always talked about the complexity on the dissertation project. When I was the student of the first semester, they told me that we would have difficulty in the fourth semester at that time of writing the thesis. After the completion of the second semester, I have always been thinking about my master's dissertation. I have started thinking about a research topic. I have found that there are some common topics such as gender issues, mathematics empowerment, ICT education, action research issues etc., but I have never been confident about choosing the issues. I think research means a careful study of the subject, especially in order to discover new fact or information about the issue in question. Many of the researchers have found the solution to the social problems or their own problems. So, I also wanted to search my own problem and find a solution to it.

Research is a systematic investigation and study of materials and sources in order to establish facts to reach a new conclusion. Research is also a process of finding a solution. I think research can be compared with the activity of a fisherman. If a fisherman catches a fish and it escapes from his trap, another fisherman will catch it any time. Similarly, research is not a complete process. It is a universal idiom that covers all kinds of studies planned to discover reaction for meaningful inquiry by means of resources of a systematic and scientific approach.

“Research may be defined as the systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, theories, resulting in prediction and possibly ultimate

control of events” (Best & Kahn, 1999). When we ride a vehicle, we have to follow the traffic rules. Otherwise, we are fined for the violation of rules and regulation and we may have an accident, too. Accordingly, research methodology is considered a rule of research work. We have to apply it in our research process.

In our research class, I always used to sit on the right side of the white board because I use left hand to write. Once on a Thursday, My teacher entered the classroom and asked me about my research work but it was very difficult for me to reply him. Then he asked me about my research topic and my response towards the research class. After that I replied that I could not choose any suitable topics by then but our class was very interesting. Then I met my instructor during the recess and discussed the topic with him. At first, he reminded me of his teaching in the classroom and he asked whether I had understood my problem or not. At that time, he wanted me to know something about my past events. I always suffered from this problem. My friends and teachers talked about my behaviors. They showed my weaknesses. They asked me why I did not pay any attention to my study, what I would think about in the learning period. So, I chose a topic of my problem and presented the research in the autobiographical kind of writing.

When I was a student of grade nine, my parents were worried about my mathematics. Therefore, they cared much about my study. They were not satisfied with my study so they managed a private tuition class (in maths) for me. At that time, I had five friends. On the first day, the teacher taught us trigonometry and wrote the formulae about it. He suggested that we should learn them by rote learning or memorize them at any cost. The teacher warned us against getting a severe punishment. He wrote a statement “Panday Bau Panday Hari Hari Boal”. These types of statements (p/h, b/h, and p/b) meant the formula of Sin A, Cos A, and Tan A

respectively (Sherstha, 2011). He applied an easy method to his teaching. But other formulae, which are not related to our context, concern foreign subjects. In the context of Nepal, many of the mathematical symbols are unfamiliar because they have not been used. So, Luitel (2009a), in his paper, has defined mathematics as a foreign subject. When I studied at the lower secondary level, I would take mathematics as a very difficult subject and I was not familiar with the true concept of mathematics. When I learned $1+1=2$ in a simple addition and $1+1=10$ in the binary number system, my view towards mathematics completely changed. I always thought that mathematics was a subject only for foreign students. When a teacher taught us geometry, s/he only talked about a theorem and problem but s/he did not give any example that matched the context and situation of our society. According to Luitel (2007), the cultural contextualization of mathematics education involves understanding the difference between two competing views – universalism and contextualize. When Luitel learned from his instructor, Dr. Euclid had started producing the theorem of hyperbolic geometry. He gave the example of hyperbola with pseudosphere, then Luitel did not know about pseudosphere but he compared hyperbola with “Shanai”, the “Shanai” is a Nepali musical instrument which is the contextualization according to our culture.

I used to like rainy session. When I was small, I would run outside when it rained. My parents had also gathered in home. We did not have any work. My parents didn't leave me and my sisters because in the rainy time sometimes thunder would frighten us. So, my parents were also frightened of the thunder. Sometimes, I would feel very happy because my parents didn't force me to study. In class nine, I started attending an extra tuition class. One day when it was raining, I had to go to the tuition class. So, my mother helped me to leave for the tuition house. The day before, we had

learnt about solid figures. When we were going to the tuition house, I saw on the street some old persons wearing a big hat, to shelter him from rain. I immediately asked my mother, “Who is this man and what is he wearing?” My mother replied that this person was known as Tharu and he was wearing the Chatari “big hat”, which was made of leaves. I compared Chateri with my yesterday’s topic 'solid geometry'; I compared it with a cone. Then I thought mathematics as beautiful. When we reached the tuition house, my mother went back home. My teacher was also from the Tharu society. He pointed to his father’s Chatari (Tharu’s umbrella which is made of leaves) and taught me ellipse. I enjoy this type of learning; probably it was relatively more effective.

Then we had to turn the geometry chapter. Then the teacher taught to us the concept of lines. I also paid interest to the outside rain. My eyes went to the teacher's kitchen home, where madam (teacher’s wife) was collecting some vegetables.



The teacher disturbed me; he said to me “You focus on your study.” Then he asked me about parallel lines. I didn’t understand about parallel lines because I gave interest to the outside environment. Suddenly madam called the teacher, to climb the roof of the

house to collect the vegetables. Then the teacher helped the madam. After sometime, the teacher pointed me to the ladder which had been standing on the wall of the house. He compared the ladder with parallel lines. Then I think mathematics shapes and mathematics terms are linked with our community. The teacher also shared the ladder position that moved the angle of the ladder. He taught us that it could be placed at

different angles according to climbing situation, which is contextualizing the mathematical knowledge related with our culture.

Statement of the problems

When I think about my student life, I felt a need to express various critical moments of my life. At that time I felt the teacher oppressed me because when I asked some questions with my teacher then the teacher did not show any interest to my query. When I did not understand some simple processes in the mathematics problems, then the teacher would blame me using some nicknames. I found this type of behavior on me so that I take my research issues to do with the oppression using the word “oppressed” to refer to the teacher’s behavior. On the basis of my learning experiences, I found that teacher –student relationships are associated with students' academic performance (Decker & Dona, 2007). Murray and Greenberg (2001) research outcome shows there to be a far relationship between the students and their teachers, highlighting that those students having lower performance lacking a close relationship with the teachers. However, in that research, I do not find the cause for oppressed relationship between students and teacher, so that I try to investigate the cause of lack of relationship between students and teacher, the cause the oppressing classroom.

When I was in students phase in different level , then I got some experience about oppressive behavior which was happened in mathematics classroom from my teacher , pear group , etc., it is also related with theory of Sigmund Freud (1923) the human being is guided by three type of personality such as Id, ego and super ego. The three personality elements work together to create complex human behaviors. Therefore, each and every person carries one type of personality. When I was in lower secondary level at that time I was guided by Id concept, the Id is driven by the

pleasure principle. According to Freud, the Id tries to resolve the tension created by the pleasure. In the childhood period, my purpose was only to go to the school area; then when I was at the secondary level, I was quite influenced by the ego concept (ego tries to find an object in the real world that matches the mental image), where my purpose was to getting some concept about mathematics education. When I am at the researching phase, at that time, I am guided by the super ego. According to Freud (1923), the super ego acts to perfect and civilize our behavior, the super ego is the aspect of our personality that holds all of our internalized standards and provides guidelines for making judgment. There arise some questions in my mind “why I was always dominated by my teachers and other peers? How does it affect on my study? Actually, these questions encouraged me in this auto ethnographic inquiry.

In my student phase, I used to think mathematics as only for active students and I found the interaction between teacher and students very less, and teachers always focused talented students who were active in the classroom. I also faced different types of oppressing behavior, so that I want to critically observe that in my research phase. According to Sharma (2012), the teacher may be perfect in the content of the subject matter but he may not have skills in student friendly pedagogy. Therefore, I try to find out the decreasing oppressing behavior. Moreover, I try to find out who is responsible for creating an oppressing education system. In the above background, I wanted to know about the responsible factors on oppressing classroom. Doile, Emmer, and Shulman (as cited in Cruickshank, 1999) assert that "knowing your students is extremely important if you expect to become an expert teacher" (p. 81) (as cited in Sharma, 2013), so the teacher is responsible to decreasing oppressing behavior, and students are also responsible for being oppressed. When students are

active, then they do not feel any kind of oppression. The oppressing situation affects the student's academic level and personality, too.

Purpose of the Study

Mathematics is important for our life, to assist in the daily activities. Without its calculation, we will be cheated in any place at any time. We know that people use it in their daily life knowingly and unknowingly. Many developed and developing countries value it highly and use it systematically. In our country Nepal this important subject is only taught to pass a certain level and to get a degree. Even a teacher does not connect any mathematical examples with his/her everyday life. So, students feel that mathematics is a foreign subject (Luitel, 2009a) and do not learn it with importance. They do not pay much attention to it. I have seen my own lived experiences of learning math, teachers have taught theorem, solving problem in their own ways. They did not use any kind of method like collaborative, constructive approach. They only applied the lecture method in their teaching learning activities.

The purpose of my study was to help students reduce math anxiety through different methods and to facilitate them build up self-confidence in math. My main concern with this project was to dig out what activities are related to math anxiety and oppressing behavior on the part of the students and teachers. Therefore, the proposed study has been fundamentally designed to examine and explore experience of my pedagogical practice, oppressing behavior on teaching learning phase.

Research Questions

The following research questions have been formulated in the process of the inquiry. However, the developing and the broad nature of auto ethnographic research may not be fixed only within the following questions. Rather they will be developed as the inquiry progresses.

Overarching Research Question

The following overarching research question has been formulated in the process of the inquiry.

How have I found the nature of mathematics and teacher's behavior towards talented and low achieving students and one's awareness?

Subsidiary Research Questions

Based on the above overarching research question, the following subsidiary research questions have been formulated in the process of the inquiry.

1. *How have I found teacher's behavior in different levels towards me?*
2. *How did I treat my students during my teaching career?*
3. *In what ways can I possibly reduce oppression in the classroom?*

Significance of the Study

I am going to use auto ethnographic methodology for the study. For this, I will recall my past experiences, feelings and reflective practices in different stages of my mathematics learning and little experience of mathematics teaching.

This research expected that it will help to improve the researcher's teaching learning practices "by embracing the notion of researcher as reflective practitioner" (Luitel, 2012a, p. 6). Therefore, the significance of this present study lies in improving my own educative practices as a mathematics student. This research is significant from various points of view but mainly it is to reflect myself critically so that I can improve on my learning activities in the days to come reducing my own weaknesses. The next thing I expect from this research is to develop my own living educational theories on the basis of my learning experiences and the study. Moreover, I think this research will be helpful for me. Students, teachers, educators, policy makers can address the needs and interests of the learners by applying suitable

pedagogies. I hope it will provide essential feedback to the program designers, and policy makers to design the anti oppressing classrooms. This research study gave me an opportunity to see what students go through on a daily basis when they are feeling mathematics anxiety.

This study is more significant for me than for other readers and researchers. It is for me in the sense that it gave me an opportunity to reflect upon my lived experiences and do self judgment of my latent knowledge and background knowledge of mathematics. Readers will find oppressive classroom situations, oppressing pedagogy practices and also the reducing ways of the oppressive situations in our classrooms.

Delimitations

In this research, I have tried to limit my professional experiences. This study has primarily been based on my individual experiences that I have possessed. As mentioned earlier, the theoretical framework adopted for the analysis of the individuality was autobiographical. Overall my study focused on individuality of my learning phase, teaching phase and my transformative phase.

Theoretical Position

My research is based on auto ethnography method. Since my problem seems to be an anthropological issue, I consider society as central unit of my study. Sociologists are the members of the society. My research title also deals with the critical action which transforms not only one's own life but also helps to know teacher education and pedagogy. It also relates with constructive theory, and nature of mathematics, I also focus on children's needs, anxiety. Mainly I focus on the banking concept and problem posing education system (Freire, 1990). In the banking concept of education, teacher is the subject who has experienced, who had known absolutely,

narrates his absolute knowledge. But on the other hand, it sees students as the object, they have absent of knowledge and experience, who need to be "filled" by the teacher's knowledge. According to Freire, knowledge will not be created because the students are encouraged to accept the narratives without further analysis. In the pedagogy of oppressed, Freire (1994) claims that knowledge is not gained, because there is no analysis of which the students learn.

Chapter Summary

In this chapter, I have discussed my learning stage, which helped me to identify my research problems. I have presented my research background, research questions, purpose of the study, and significance of the study, delimitations, and theoretical position. Moreover, my research questions were related with my experience and feelings about oppressing situations in different levels and capacity such as student, teacher and novice researcher.

CHAPTER II

LITERATURE REVIEW

Chapter Overview

This chapter presents the review of the relevant literature relating to the various aspects. This chapter includes the description of the different literature and theories. The literatures are under two sub categories as thematic literature and theoretical literature. Thematic literature contains the description of different studies done by different people under different topics which are related to this study. And theoretical literature review describes different theories which are applicable to this study.

Literature Review

My research problems are related to the learning theories, critical theory, socio cultural theories and mathematical pedagogies contextualization approach to reflect my own classroom experiences as a learner. The literature review is needed for the area of developing a common argument to clarifying our research question (Bryman, 2008). A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are the secondary sources, and as such, do not report any new or original experimental work. Also, a literature review can be interpreted as a review of an abstract accomplishment. So, we can define literature review as a narrative of the literature suitable to an exacting field or topic.

I visited the library of KU, I read different articles, journals, books, newspaper and census report, and browse different websites. I reviewed some book and thesis which are related to my research issues. With the literature review, I have tried to present the definitions of intelligent, classroom, constructivism, and contextualization.

Theoretical Review

Under theoretical review, I have presented mathematics anxiety, multiple intelligence, and pedagogy of the oppressed and critical theory. They are dealt in detail below.

Pedagogy of the Oppressed

In my research, I have used the concept of Paulo Freire's (1990) pedagogy of the oppressed, where I elaborated on the banking concept and problem posing education concept. I tried to link with my pedagogical practices on my life world experiences. Oppressive situation is when people treat people cruelly and unfairly, when the people are depressed and uncomfortable.

Freire critiqued the educational system of modern western societies by presenting the relationship between teacher and students. In the banking concept of education, Freire gave the symbol of teacher as a depositor, and students as the object, they have absent of knowledge and experience. According to Freire, the knowledge will not be twisted because the students are optimistic to accept the narratives without further analysis. I understood that the banking concept of education creates a master – slave dichotomy. In order to liberate the society from this oppressive academic system it would first have to reevaluate and reconstruct the relationship between the teacher and students. Frère proposes an alternative system of education "problem posing education", in this system the difference between teacher and students is eliminated, as both teacher and students become transversal.

Critical Theory

In my research, I used the methodology of critical auto-ethnography. When we show one finger to others then three fingers show to ourselves. So, we can say critical theory does not only question to others but asks question to the researcher. In my project, I tried to search question to others like curriculum, pedagogy, school management committee, etc. but I also focused on searching critically own self. What is my weakness? How was my learning style? It is a meaning making process through reflexive practice (Sharma, 2012).

According to Cohen, Manion, and Morrison (2000), critical theory is explicit, prescriptive and normative, entailing a view of what behavior in a social democracy should entail before raising the question. Now, I will search into my past trying to understand self any try to link to my own society and culture. Critical research involves helping those without power to acquire it (Luitel, 2012a). My experience and feeling towards learning mathematics may explore the truths towards my practice so my study will be qualitative with critical paradigm. My own view, ideas and experiences together with views of my students in the form of narrative inquiry form the methodology of my research.

Thematic Review

Mathematics Anxiety

It is the feelings of tension and anxiety that interfere with the manipulation of numbers and solving of mathematical problems. It can cause one to forget and lose one's self confidence (Tobias, 1993). Math anxiety is an anxiety reaction. It is a phobia with both immediate cognitive and long-term educational implications (Faust, 1992; Ashcroft, 2002).

Math anxiety is a fear-based reaction to learning and using mathematics content to solve problems and evaluate outcomes. Math anxiety may happen in many areas of life, but teaching professionals generally notice it in students taking a course in mathematics. It is a feeling of intense frustration and helplessness about one's ability to do math.

I have observed anxiety of different students like mine. These types of students and me are at a point where we are ready to make a change in how we approach math. We often make lots of progress in working constructively on our anxiety issues.

I have seen fewer students like these, but I'm increasingly influenced that they are also very likely to be math anxious. These students often express their fear on the surface as anger directed at the course, instructor, tutor, etc., and that makes it harder to help them. When I realize I will not be able to adjust in their chosen field of study without mastering the quantitative course(s) with which I am struggling, at that point sometimes my teacher and friends can examine and deal with my feelings and learning practices more constructively. Math anxiety can affect our ability to perform and remember math since the brain occupied with emotion may not have enough space for logical tasks. Einstein thought in pictures rather than in words. When I was first introduced to the formula, I could not concentrate on those formula and symbols.

Rothstein (2004) says, "The best predictor for student achievement is not teacher quality but the social and economic circumstances of the children." He recommends to make sure students from low-income families are reassured that it is not their fault if their (math) grades may be lower.

Math's anxiety occurs when we don't know about mathematics terms, and the nature of mathematics as pure and impure. Most of the mathematics teachers and

students think mathematics as absolutist. They are also guided by absolutist view whereas Fallibilism is that view which claims that mathematics is a relative, contingent, historical construct. According to fallibilism, mathematics is social constructivism which claims that the concept of mathematics rules, definition were invented and developed over millennia.

Bullying

Bullying is related with being insulted, mostly in the students' phase, is related with safety and security; it directly affects the students' achievement level. If the students do not get physical safety, they do not have good achievement in their study. Bullying is an impact factor of children's performance. Bullying seriously affects children's learning and destroys children's confidence and self respect.

In class twelve, I was smaller than my other friends. One of my friends helped me, his name started with D. So, in the examination, seat plan was made in the alphabet order, so he and I were close in the seat arrangement. When the exam period came, then he suggested me to show my copy to him. He also threatened me if I did not show the paper, then I would get punishment. The exams guard also suggested to me to sit properly otherwise I would be sent out from the class. My friend has threatened me. In the whole exam period, I didn't write properly. That was hampering my exam. When students get education in a safe and secure environment, education is effective.

Empirical Review

In the empirical review phase, I have tried to review the literatures related with my research issues since empirical review is a way of gaining knowledge by means of direct and indirect supportive theme for my research issues (Araji & Fikelhor, 1985).

I therefore have tried to review the literatures based on some similar thematic terms from the relevant research studies.

Acharya (2012) conducted on his MEd research entitled "*Teaching and learning mathematics through discourse*". That was a qualitative research under auto ethnography as his methodology. This research was carried out with the anticipation of improving student's experiences for meaningful mathematics learning, engaging students in rich, subject specific discourse which could increase student opportunities to learn mathematics subject. The study of classroom discourse is the study of the process of face to face classroom teaching. Students learn to critique their own and other's knowledge and search out efficient mathematics solutions. His study found that initiating dialogical discourse in the teaching learning process helped to increase a good relationship between the teacher and the students, students could change the habit of learning from individual to group and discursive learning, it helped students to construct knowledge. If dialogical discourse was exercised, it helped students to learn for knowledge and that knowledge is constructed, not transmitted. He asserted that students could play vital roles of co-teachers to enhance meaningful mathematics learning.

I got some idea from Lama (2012) reading his dissertation "*Becoming a student's friendly teacher of mathematics*". The purpose of this research was to explore various practices of teaching and learning mathematics, he reflected his experiences through auto ethnographic inquiry under interpretive paradigm. He represented unfriendly teacher who had some cold reasons for teaching mathematics, thus had full control over the class. A friendly teachers acts like a friend for his/her students, a friendly teacher combines both the guidance of a teacher and the understanding of a friend. He explained his childhood had two sides, one was assignments and the other was

punishment, so that he never felt that his teachers were thinking positive for the students in the classroom. Lastly, his research finding also revealed the constructivist idea that knowledge is not just transmitted to the students by teachers or parents, but inevitably has to be created as the child responds. Teaching is the reflection of a person who has learnt in real lives. He also revealed that teaching is not only solving the problems on the board but also making friendly relationship with students.

Khatri (2011) conducted his MPhil dissertation on “*Teacher’s personality in students learning*”. This research deals with the issues related to teacher’s personality and its influences on students learning in the classroom. His research focused on teacher students relation highlighting teacher’s appearances, behavior, characteristics and social status and the students reactions towards such phenomena. His major finding revealed that the aspect of teacher’s appearance, walking style, voice quality and behavior, students' meaning making in learning. Sometimes, the students feel irritated toward their teacher but they do not express directly in the classroom. In conclusion, teacher’s personality plays an important role in students learning in the classroom. If students like their teacher then they also like the subject that the teacher teaches otherwise if a person and his profession are neglected then the knowledge by that person is never taken seriously. Therefore, teacher personality is directly related to his/her profession such as teaching, how a teacher presents, deals and interacts to the students in the classroom.

Shaha (2012) presented some idea on his MEd dissertation entitled “*A journey from violent teacher to possibly a student’s friendly teacher*”. In his research, he presented that at first he was not a student friendly teacher. But in the later phase, by the help of meditation and the study at Kathmandu University, he was able to transform himself from a violent teacher into a student friendly teacher. He used auto-

ethnography as a research paradigm, exploring his past, he was able to know the relationship between anger and the student's achievement and their attitudes, and his journey from Annanda Prgya to Annanda Samadhi is all about awareness and love. He came to know that teaching learning of mathematics is not for punishment it is for love. He realized that anger does not have positive aspect. It always harms the learning process of students. Students cannot learn in fear. Once the teacher becomes angry, the gap of students and teachers will be wider which exerts a negative impact on student's achievement.

Shaha (2012) explored his views about the nature of mathematics in his Med dissertation on the title "*Views on nature of mathematics: An evolving enquiry*". This dissertation was an auto-ethnographic inquiry, where he excavated his experiences on the journey of teaching and learning of mathematics. In this research, he used interpretive paradigm. He asserted that his experiences and feelings showed that mathematics was a hard, difficult, abstract and logical subject in the eyes of students. On the other hand, he found that mathematics knowledge is not fixed; it is not a static body since knowledge is dependent on learner's perception and accumulation. He claimed to know that fallible nature of mathematics, absolutist nature of mathematics, dialogical nature of a mathematics, infallible, intuitional, and logical and constructivist nature of mathematics.

Similar ideas was explored by Rana (2006) in her PhD research entitled "The Experiences of being victims of school Bullying" using phenomenological approach within qualitative research design. She used personal recollection, stories, autobiographical writing, and participants own words and meanings. She found that victims of school bullying experienced puzzlements fear feelings overpowered and controlled, loss anger, sense of guilt and regret. She bought the nuances and examined

the core constituents of the experiences from two overlapping perspectives. As a result of her analysis, she had suggested that improvement in school management policies, teacher training program and the developments of positive school culture for the educational and emotional growth of Nepal could help in minimizing school bullying.

Similarly, Piper (2008) asserted in his research entitled “Attitudes, confidence, and Achievement of high – Ability Fifth grade math students” that students achievement was compared two different measurement scales to identified a relationship between confidence and achievement.

According to Clements and Batsta, the basic tenant of constructivism asserts that knowledge is actively constructed by the individual and not passively received; so learning depends upon the capacity of students but not of the teacher (as cited in Gurung, 2011). Ghimire (2006) pointed out different factors affecting students' achievement such as students' personal characteristics and learning, studies related to the family characteristics and students' school characteristics, studies related to different areas of mathematics and school achievement. I try to review the factors influencing my achievement in school level mathematics in order to identify the factors associated with achievement in school. I try to observe my external and internal characteristics. Internal and external characteristics are linked with the achievement level.

According to Vygotsky (1986), learners first construct knowledge in their interaction with people and activity, in this perspective, knowledge and learning are considered to be social activities. Similarly, Von Glaserfeld states knowledge as the result of an individual's subjective constructivist activity, not a commodity that

somehow resides outside the knower and can be conveyed (as cited in Upadhyay, 2008).

Ghimire (2006) conducted a research on "*Factors affecting students' achievement in mathematics at lower secondary school in Kathmandu*", and his study summarized that there was a significant difference between the mean achievements in mathematics belonging to different age groups; the time spent watching television, the time spent on household work, game and sports. According to Ghimire, age level also affected the achievement level. When I was in school level, I was junior in the group of our class; many of the friends had threatened me. When the senior friends did not pay interest in study that time senior students would scold the junior students. So that age group affected the achievement.

In my learning period, when I completed school level course, then I joined higher education in Ghorahi, the headquarters of Dang district. When I was studying in +2 levels, I met students with different achievement level who came from private school and urban area schools. I felt difficult because I came from rural school. So, my achievement level was lower than other friends.

Pardhan (2010) concluded that students' prior achievement and interaction are supportive for higher achievement, participating in games and sports, watching television and study habit do not affect the mathematical achievement. The low education status of mother and their low level of involvement in the children's study contributed to the low level of students' achievement. I support the view of Pardhan when Pardhan explains that the participants' involvement in games and watching television affect the mathematics achievement. While I was a child, most of the time I was involved in playing games and watching movies. When we made the plan of watching movie on a particular day, we left the class and it hampered our study. So, I

claimed that participating in games and sports, habit of reading, watching television or movie affected students' achievement level.

Pardhan elaborated in his research that mothers' education affected students' achievement. Yes, I support this point. In my childhood, my parents were happy because we had a small family with five members. My father had a job in a cooperative organization. Before this job, he was involved in the teaching field. My father had no time for taking care of my study, so that my mother helped me in my study. My mother had earned only lower secondary level education. When I was about 4 years old, I was a naughty and bad humor child; my mother explained my past habit. When she took my hand to teach me writing, at that time I hurt my right hand refusing to write but my mother did not relieve me then she took my left hand for writing, and now I have the habit of writing with my left hand. At this moment, I offer my thanks to my mother. My mother helped me every moment in the past till now, at this time my mother cannot help me in my academics but she encourages me to study.

When I was in between class nursery to class seven, during that time my mother cared very much about my study and helped in every sector. I had good performance in lower secondary level, but while my class level was increasing my mother could not help in my studies, then my performance also went on decreasing. So, I held that mother's education has also an impact on children's education. According to Ghimire (2006), the mother's occupation doesn't play any significant role in mathematics achievement of the students. My mother was only involved in household work, so the occupation does not affect my study. Pardhan (2010) also supports math study at home, the amount of time spent in mathematics by the students at home and the language spoken at home have influence over students' achievement

in mathematics. Education environment of the family showed a significant difference between high and low achievers.

Critical research always believes in the value of history and can be changed. These values are to be changed to make benefit for the voiceless people. Joshi (1997) concluded that the teacher qualification and experiences were significant for the students' achievement. Deb and Grewal (as cited in Rahaman, 2003) in the study of relationship between study habits and academic achievement of undergraduate science students found that the students' habits and interests influenced their academic achievement.

Lamb and Fullaration (2001) concluded in their project paper "Classroom and school factors affecting mathematics achievement: A comparative study of the US and Australia using times" that the early literature on school effectiveness placed an emphasis on the ability and social backgrounds of the students in identifying the factors that shape academic performances, and suggest that school had little direct effect on student's achievement. They found that differences in school achievement reflected variations in family background, and the family backgrounds of student peers, concluding that "schools bring little influence to bear on a child's achievement that is independent of his background and general social context" (Coleman et al., 1966, p. 325). The classrooms and schools are important and that teacher and classroom variables account for more variance than school variables (Scheerens et al., 1989; Scheerens, 1993). Moreover, teacher decision of student achievement plays a central role in many important classrooms and school decisions, including instructional planning, screening, placement, referral, and communication with parents (Gittman & Koster, 1999; Hoge, 1984; Sharpley & Edgar, 1986; Stiggins & Conklin, 1992).

Chapter Summary

In this dissertation writing period, I went through different research writings, books, journals, and articles, research paper, and thesis. They were related to my research agenda I also used internet web sites. In this chapter, I have presented the reviews of relevant literature. I have used thematic and theoretical reviews. I reviewed mathematics anxiety, multiple intelligence, nature of mathematics, collaborative, constructive, pedagogy of oppressed, and bullying. In the literature review period, I have used empirical review related with my thesis.

CHAPTER III

RESEARCH METHODOLOGY

Chapter Overview

In this chapter, I have explained the overall methodology of my research. The approach of my research is intergralism, where I used interpretive, criticalism, postmodernism. Therefore, my study is qualitative. “Qualitative studies are those in which the description of observations is not ordinarily expressed in quantitative terms” (Best & Kahn, 2007, p. 279). This chapter therefore deals with my research methodology, my philosophical considerations, quality standards, research paradigm, and ethical considerations of my research.

Research Method

My research is qualitative; it raises some critical issues, why I could not concentrate fully on the classroom activities. So, I have reflected on my own past experiences.

Since my research is qualitative under critical paradigm, my own past experience, feeling and reflection were the main data sources in my research. I have narrated my feelings in the forms of diary, fictive/semi fictive stories and poems. I have tried to link my feelings together with others in the journey of mathematics teaching and learning.

Auto Ethnography

Auto ethnography is the combination of three words, auto+ ethno + grapy, which gives a whole meaning of searching the history of oneself and others. Auto ethnography is known as a personal narrative writing which includes different types

of methods like as stories, conversation, life account, historical account; auto ethnography tells one's stories, and experiences. According to Ellis (1999), auto ethnography is an autobiographical genre of writing and research that displays multiple layers of consciousness. So, my feelings, experiences and various activities of life will be explored in the form of stories, dialogue, poems, diary writing, etc. Auto ethnography is the lens to deal with one's own drawbacks /expressions. Autobiography is a piece of history; autobiography brings together an understanding of personal identity and cultural context. . According to Roth (2005), auto ethnography is a legitimate way of establishing inters subjectivity that escapes the false dichotomy opposing subjectivism and objectivism. So, I have understood that auto ethnography means understanding the self and knowledge extracting from the self, it refers to a self narrative; it is focused on two aspects: exposing self and interpretation of culture group. In my research issues, I have mainly tried to focus on auto ethnography in my project. My research problem raises a question 'Why do I have little interests in math?' At first, I study about myself, what are the causes? I try to focus on my society, classroom culture. In my society, why did we not try to link and contextualize mathematics?

Auto ethnography is a form of self narrative that refers to personal expressions. Moreover, it is an approach to writing that tries to describe and systematically analyze personal experiences in order to understand the cultural experience. For example in my research, why am I less interested in math subjects? Then I try to find my autobiography. Autoethnography is the description of people where the research is him/herself a member, the people describing the people, much like in auto/biography, where the research is a representation of each other's cultural study. Auto ethnography engages exploring and transforming researcher's

professional philosophy and intention by using narrative, autobiographical and ethnographic methods to lead his life history.

I agree with Belbase (2006) on that auto ethnography is the politics of personal portrayal on the canvas of social and cultural context with the possibility of creating tensions and subtle way of resolving them. It is also the study of others' activities linking them with self. The person self is known through a simple view but unknown through an in-depth view. The person to know self is himself/herself but may be insufficiently. So, the study of self together with study of others is necessary and is called auto ethnography. Luitel and Taylor (2007) state auto ethnography as a hybrid that combines ethnographic inquiry and autobiographical inquiry. The term auto ethnography comprises three different words auto, ethno, and grapya, which refers to the textual representation of own personal experiences in his/her cultural context (Luitel, 2003). According to Lerman (2006), theorizing power relations, identifying regulatory processes and pedagogic identities, and careful elaboration of recognition and realization rules within research are necessary features of a new ethnographic turn in studies about learning mathematics.

So, in this research, I have used auto ethnography approach. This helps me to reflect on my own experiences. At first, auto ethnography answers about oneself. So, auto ethnography explains the different views of the person. I elaborated in my research paper my past experiences as a child, as a student in a different levels and as a teacher. When I was weak in mathematics in my childhood, I thought about mathematics as a hard subject. Moreover, my mathematics teacher was also guided by absolutist view.

My Research Paradigm

In my research study, I have chosen critical auto ethnography as the method of inquiry. This paradigm searches with criticality. Willis (2007) defines a paradigm as the general theoretical assumptions, laws and techniques for their application. The common research paradigms are positivism; post positivism, interpretive, critical and post modern.

Critical paradigm shares some ideas of the interpretive paradigm. In this paradigm, we can seek about the justice, political power, power relation, equality, and equity. In my research, I raised some questions regarding my paradigm. Why can we not find equality between students in the same classroom? Is teacher's perception responsible for this? Are our classrooms not democratic? How can we link mathematics concept with our cultural things?

Denzin and Lincoln (2005) define "A paradigm as a basic set of beliefs that guide action which deals with principles or ultimate" (p. 183). In my research, I used Multi paradigm, in my research, I have used critical auto ethnography. In critical research, we search the issues of discrimination, right, agenda and critique. I have experience of learning in different levels where I had felt about mathematics as a boring subject, classroom as a discriminatory place, where teachers and friends victimize the low achieving students.

Interpretive

In this research methodology phase I have used in my research in a reflective way. the methodology which reflect my personal biographical data in my study phase, I used my past experiences about my student period, teaching phase and researching phase to clear my own history. This method represent the interpretive method, Cohen and Manion (2007) assert that

The central endeavor in the context of the interpretive paradigm is to understand the subjective world of human experiences. To retain the integrity of the phenomena being investigated, efforts are made to get inside the person and to understand from within. (p. 21)

I think that my classroom learning and teaching experiences are also guided by multiple perspectives, feelings, consciousness and experiences, so I choose interpretivism, where I take my experiences from different perspectives. Creswell (2003) states “narrative research is a form of inquiry in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their lives” (p. 14).

Philosophical Considerations

Philosophical consideration means the view of the person, personal idea, and personal philosophy. My philosophical considerations mean the views of mine towards something or any area. The philosophical consideration helps me to understand my research. In the practical field, it helps to link my idea with the philosophical view. So, I would like to connection the philosophical terms of research paradigm, ontology, epistemology and axiology in my research.

Epistemology

Epistemology is related to the theory of knowledge. Knowledge is everywhere. Knowledge is constructed in the society and culture. Knowledge is contextual; it is produced at different levels such as students, teacher, researcher, practitioner, etc. The knowledge which is connected to my own reality and created by my experiences is useful. So, in my research I would like to focus on the reality of students, and mathematics classroom to find whether mathematics classroom is democracy, justice and contextualized or not.

Epistemology relates how we come to know or how we construct the knowledge about issues. It focuses on what knowledge is. How do people know about knowledge? So, that epistemology is the theory of knowledge (Sharma, 2012).

Epistemology is the process of acquiring the knowledge through different methods.

Richards (2003) defines epistemology as the science or study of knowledge, refers to the views we have about the nature of knowledge and the relationship between

knower and known (p. 35). Luitel (2012a) defines epistemology in two different

views; epistemology as the nature of knowledge: tangible, objective, and uninfected by cultural, social, political belief systems; and in another view, epistemology as the

nature of knowledge: soulful, tacit, and infected by human values. Therefore,

epistemology is, on the one hand, objective and constant; and on the other hand, it is subjective and inconstant that always changes according to different contexts.

In my Inquiry, I have tried to build up my epistemology through interview and experience. In other words, I have tried to generate the knowledge through interactions between me as a researcher in different levels of experiences, interview with my teacher and family members. I have tried to understand their subjective reality. There may be various local and individual beliefs existing which may have forced them to adopt certain activities and my duty, as a researcher, was to dig up the ground reality in order to gain the subjective reality by using the tools like observation. The knowledge is created from the perspective of critical reflection and thinking.

Axiology

The word 'axiology' comes from the Greek word 'Axoos' which means "the study of values or quality". Axiology is related with the theory of value. What is value? What issues are right or wrong? Which theories are valuable? Which issues are important? Which knowledge do we value? What type of knowledge is worthy or unworthy for us? What are good things and what are bad things? "Axiology refers to truth, worth, values and ethics. It studies how people think and determine the value of different things" (Pratistha, 2011, p. 41, as cited in Giri, 2012).

This value can be subjective and objective. In my project, how can the researcher's agenda take the value in participants' views? How they respond to my issues. In my research, how I interpret the data is also related with axiology. I also take notice of the interests of the people. The value is decentralization in critical research; value also differs from individual to individual. I think self is important and valuable so that I can try to focus on self experiences, self knowledge generation, and self confidence as valuable in my project.

Ontology

The word 'ontology' comes from the Greek word '*ontos*' which means 'exists'. From this meaning of the word, we can say that ontology describes the nature of the world and its reality. Ontology is a branch of philosophy that deals with the nature of existence which is concerned with beliefs about what is to know about the world. Ontology deals with what issues are related to the nature, existences, or being.

Luitel (2012a) defines the term ontology as the theory of reality, ways of being in the social reality. Denizen and Lincoln (2000) say that an ontological issue concerns itself with the social world because it is open to subjective interpretation. It also deals with the questions like what is real, and what is not? Richards (2003), in

this context, opines that "ontology, literally, the science or the study of being, is concerned with the nature of reality and their stances". It is related with the reality, being and existence. On the basis of my proposed study, there is no single reality for me rather there is multiple realities which are not constant and they always change according to the context. Reality also differs according to the philosophy or assumptions of different persons I represent my past behavior, the causes my less interest in mathematics subject. Then my different period experience has different. So that reality also differs according to the philosophy of the individuals. As far as my research is concerned, my research question found different answers since my research problems were based on multiple realities.

The reality is constructed by human beings. Similarly, the mathematical reality is rational as well as contextual. The processes of teaching and learning mathematics are different according to different contexts. The processes of personal meaning making are also different from place to place. There are different methods of solving mathematical problems and multiple ways of understanding them. We can also get multiple ways of meaning making. There may be different methods of problem solving. My research questions may have various answers and may be all correct.

In my childhood, I played with my friends most of the time. One day in class five, many of my friends gathered at the center of the village, where a small shop and hotel were situated. In the morning period, my elder brothers had started playing striker board, after sometime they would return. I didn't understand the term of return, but I saw all visual information then I understood the return term when they used return term, then they started playing in a different approach, they used return approach then the striker would be successful to win the difficult situation. So I think the "re" word is very powerful.

In the research area, research means “re + search”. Re means for a second time or again and search means seek out the knowledge. According to Oxford dictionary, research means a careful study of a subject, especially in order to discover new facts and information about it. According to Kelinger (1970), "Research is the systematic, controlled, empirical and critical investigation of a hypothetical proposition about the presumed relations among the natural phenomena" (as cited in Cohen, Manion, & Morrison, 2008, p. 6).

Sources of Information

As my research is qualitative and follows critical paradigm, my own past experiences, feelings and reflections have been the main data sources in my research. I have described my feelings in the form of diary, stories and poems. I have tried to link my feelings together with others in the journey of mathematics teaching and learning. The combination of such events has influenced the types of writing, resulting in poems, stories, diaries, etc.

Personal Experiences/Reflective Method

Our own experiences are important for qualitative research inquiry. First, the opening content of the passage was a dream; we shall not get into validity and reliability question over the relationship of writer's dream when experiences became more central to understand both theories and practices. I have connected myself with the critical reflection about the meaning of my past, present and future experience. I have explained what belief I had about mathematics anxiety and learning.

Narrative Inquiry

I have tried to reflect with narrative writing, for example, dream diary, poem, story, etc. Narrative writing also shows reality, narrative writing goes to the ground in depth. So, narrative writing presents lively experiences. Narrative inquiry is a process

to collect information for the research. We can collect information from field notes, daily diary, formal and informal interview, conversation, journal, articles, letters, autobiographies, speech, story, etc. I also used narrative inquiry in my research methodology. I collected the data of my experiences and interpreted them. I searched what my activities were in the past. I held interview with my parents, friends, teachers, etc. I recalled my past experiences and interpreted them in a narrative way. According to Webster and Mertova (2006), narrative inquiry is set in human stories. It provides researchers with a rich framework through which they can investigate into the ways humans experience the world depicted through their stories. Denzin and Lincoln (2005) state that narratives are socially constrained forms of action, socially situated performances, ways of acting in and making sense of the world (p. 641). Narrative studies problems as outlines of storytelling relating to characters with both personal and social narratives. It gives to research the teaching and learning through its ability to structure the study of human experience. Narrative inquiries are human experiences and the subsequent analysis of those experiences. In a narrative inquiry, first-person accounts in the form of story, biography, autobiography, life history, oral history, auto ethnography, and life narratives are used in data analysis. Common types of analysis are psychological, biographical, and discourse analysis. The defining feature of this type of qualitative research is that the data are in some form of story.

Data Analysis Procedures

In my researching phase I try to find my data from different data production techniques such as narrative writing after then main part is data analysis technique , so I have to use my analysis part is using from different techniques, such as different logic, critical reflectivity etc.

Multiples Logics and Genres

According to Luitel (2012b), logics and genres are multiple which are dialectical logic, metaphorical logics, poetic logic and genres, narrative logic and genres and non linguistic genres.

Dialectical logic

The dialectical logic includes the dualistic logic, where I have used this logic to describe situations, theories, and methods which depend on resolving issues opposing with the conversation. It requires different perspectives. In this research, I have used monologues and dialogues thinking - monologues refers one line of reasoning involving one logic, self reflective style of thinking whereas dialectical thinking involves dialogue or extended exchange between different point of view and frame.

Metaphorical logic

Metaphorical logic is used to explore the idea of the subject matter. It is used to show the concept and idea clearly. I have used metaphorical logic to compare the subject matter with anything like mathematics teacher as Hitler, Mathematics subject as hell, mathematics period as a prison. The logic helps to make up our mind for thinking.

Poetic logic

Poetic logic helps to explore research issues, it is known as non real, fabulous, and creative. When we include the poetic logic, then our research becomes beautiful. It is also known as linguistic genre.

Non linguistic logic

In this type of genre, poetry, metaphors are not included. This type of genre includes photographs, cartoon, painting, and artificial genres. Researchers utilize this

genre to exhibit the multi-vocal embodied and non linear nature of our knowledge. I have included different photos to present the realistic picture of my research.

Narrative logic

Narrative logic uses thinking through multiple dimensions of world; it helps in thinking that rises over the domination of reductionists. It is a way of analyzing problems and things dividing them into simpler units. Narrative logics are used in the story, past experiences and conversations.

Critical Reflexivity

I have linked my research issues with me, classroom situation, and pedagogic approaches. I have critically explained such matters as what the causes are, whether teacher or students are responsible for creating discrimination between students, or pedagogy is responsible. According to Denzin (2003), the idea of critical reflexivity entails the notation of exposing researcher's self as well as being self conscious of his/her own subjectivity there by being aware of the limitation of his/her chosen epistemology, methodology, and theoretical referents (as cited in Luitel & Taylor, 2007).

My experience and reality in my life showed reflective way in my research. My presumptions in the teaching learning processes are in the transformative form. Who am I? Whom am I writing to? What am I teaching? Such questions often arose in my mind. Exploring pre-knowledge and generating new knowledge through reflection were part of my research. I believe self questioning and answering should make my research strong.

Quality Standards

Autobiography writing is art based, not scientific inquiry based; I have included stories, narrative writing of my experiences to represent self and others'

culture. Cohen, Manion, and Morrison (2007) assert in this aspect that validity is an important key to effective research. If a piece of research is invalid then it is worthless. Validity is thus a requirement for quantitative and qualitative/ naturalistic research. In qualitative data, validity might be addressed through the honesty, richness and scope of data achieved” (p. 133). In critical research paradigm, I believe I have fairly explored my research agenda, justice, discrimination, anxiety, and debate agenda.

As my methodology is critical auto ethnography, the data source cannot be judged like in narcissist point of view. But my experience in learning mathematics, my activities, my assumptions about mathematics, and my feelings towards mathematics in different steps of life might be similar to that of others.

Verisimilitude

Marcus (1994) asserts verisimilitude as a set of laws set by conversation and as a mask that presents these laws as a text’s submission to the rules of a particular genre. It describes a text’s relationship to reality and it asks some questions about representations in a text consistent with real and about the truthfulness of text (as cited in Pandey, 2010). Verisimilitude is described as the quality of appearing to be true, when we include story in our research then readers contribute to the experiences. In the process of judging the fulfillment of this standard, readers of critical and transformative type of research can ask these questions: “Do the plots and characters in the stories sound believable?” And “Do the experiences depicted in researchers' stories ring true from my lived experience?”(as cited in Luitel, 2012b). I have explained my real stories and feelings relating to the society and linked them to the research questions. The readers when reading my dissertation may immerse deep into my story. I have tried to present the lived experiences in such a way that the readers

may think and feel the stories presented are their own stories. My feelings articulated in the research may be identical with the feelings of the readers. So, the readers may be engaged in reading my dissertation.

Praxis

As a learner, I want to experience narrative writing in my research. I hope to have critically examined the related issues of the society, environment and culture. My research has explored what factors were affecting my study, how they were relate to my study, how I studied in the school level, what I thought of mathematics subject in the study period, and how my practices and thinking about mathematics were. I have tried to bring out the reality of my own experiences.

Ethical Issues

In my research, the methodology is critical auto ethnography. My research problem raises the issues of equality, power relation, mathematical pedagogies, and democracy. So, it creates emotional feelings and painful situation. Sometimes, it may be debated on the issues which may create a critical situation. So, I have tried to expose the debate explaining critically. I have tried to show a realistic story. Sometimes, other characters were also connected in my research. Then, I had to be careful about my ethical concerns. Therefore, I have given different nicknames (pseudonyms) to the characters (participants).

Chapter Summary

This chapter deals with my research paradigm. I have used critical auto ethnography method. It helps to observe my data through the critical approach. Similarly, I have discussed my research methodology, philosophical considerations (my epistemology, axiology, and ontology), research method, and data generation

approach. And I also discussed the quality standards and ethical issues of my research. Moreover, I have discussed my data production techniques.

CHAPTER IV

OPPRESSION AT SCHOOL AND EXPERIENCE OF MATHEMATICS

Chapter Overview

The purpose of this chapter is to present the data of my research study. A general summary of the findings will be followed by a discussion. I have tried to discuss my past experiences towards mathematics subject and classroom environment. In this chapter, I have addressed my first research question. This chapter deals with my beliefs in the journey as a mathematics student, where I have tried to sketch my experience with oppressive situations in different levels of my study. I would like to present my lived experiences through school level to university level.

Background

I lived in Dang in a Brahmin family. I lived in a small family in the Tarai region of mid-western part of Nepal. It is one of the hottest places in Nepal. In the summer season, the temperature would reach 38 to 44 degree Celsius. This hot environment was not suitable for study; this extreme heat directly affected my study. When I sat to read, the sweat continuously fell down on the paper. Everyone felt lazy due to such environment. My family was a middle class family engaged in farming as the major occupation. Sometimes, I had to manage time for farming to help parents in the field. I even left classes and stayed home for work. This economy and cultural condition of my family had also affected my study during childhood.

It could be any day during summer season, I was returning from school with tensions in my mind. When I reached home, no one was there; everyone had gone out. I did not like to take any snacks, so, I entered the room and lied in bed. After some

minutes, my mother came and knocked at the door Tuck! Tuck!! Tuck!!! She entered the room. She tried to wake me up and after some minutes I woke up. She asked me about my nervousness. I did not tell anything and just remained silent. After her long inquiry, I had to tell her everything. I said to her on that day I couldn't solve the easy problem in the exam paper so the teacher scolded me saying "dumb" and all my friends laughed at me because of my poor mathematics. The teacher even insulted me by saying that I couldn't study in this grade and he couldn't teach the students like me. While telling this situation to my mother, my eyes were full of tears. She smiled at me and hugged me telling "No baby you can win the race someday."

I didn't know why I was not interested in learning /reading. Did other students' also have the same habits like mine? I don't know why I was not interested in the learning process. Many times I confused mathematics term as a solving process. In the learning period of binary number system, I always got confused about the terms. My mind didn't catch the terms; at that time I felt mathematics as a boring subject. I felt mathematics was only for intelligent and hard laborious persons. I didn't find beautiful scenery in mathematical terms. I think Mathematics teacher also did not take interest in his duty of teaching. I thought mathematics subject is interrelated within copy and pen only. In the reading periods of Nepali, social, science, and English subjects in the classroom, I found stories, novel, amazing things, daily life events, poems, dialogues, etc. I shared the knowledge with my parents about what I learnt in the classroom. But I could not succeed in sharing the mathematical terms with my parents. I could not link mathematical terms with stories and social events, I didn't take mathematical terms easily because I had never found beauty in mathematics. I always felt mathematics as not our term; it is a foreign term (Luitel, 2009b). So that in my childhood I was guided by the logic that mathematical term are

absolutist views. I thought mathematical terms were discovered by some extra intelligent people. In my secondary level education, I did not take mathematics easily. The teacher didn't contextualize mathematical terms with our culture, norms and things of daily use. Therefore, I didn't enjoy such mathematical terms.

Classroom Environment and Intelligence

It could be any morning in July 2000; I was studying in class six. I was in my classroom and reading a book. The fresh air passed through the window, the door was half open. In the whole class, the students (my friends) were engaged in their own tasks, such as reading, writing and discussing. One of my friends (class captain) used to suggest us to read and write. But we never found him doing it. The boy was like Hitler who used to shout loudly in order to control the class. So, we called him Hitler. He used to stand at the door and ordered us to be engaged in writing and reading. The Hitler focused on the classroom attention with loud voice. Most of the friends got frightened of his speech. Our class teacher had chosen Hitler as the classroom captain. When we need to go out of the classroom, we had to ask for permission from him. He used to stand around the door; I found his attitude and leadership to be brutal in the classroom. He tried to be a boss of the class when the teacher was absent. All friends needed to obey his order. Hitler's classroom was more silent than the teacher's classroom. His physical body was big and fat, and he was even older than us. All students would engage in some books but Hitler never turned the book. Hitler gave punishments to all friends but the teacher only suggested to us. He used to run bench to bench to observe the classroom. When we were anxious about going to toilet we should get permission from him. Hitler's intention was more important in the classroom.

In my childhood, I was less interested in study, my habit continued. In the classroom, I asked help from my nearest friend for mathematics problems. In that situation, Hitler caught me and instructed me to keep quiet and to sit on my own seat. I remained focused on my problem, but Hitler used to scold me. Hitler used one word, how nonsense dumb boy! This word strikes on my mind Dumb! Dumb!! Dumb!!! I feel as if falling from the roof. How he used that word for me, he was my friend but that word was not suitable for me. Then I quarreled with him about the reason for the word "dumb". Our quarrel turned into a fight. At last, he replied to me about the reason of the word dumb. About two months ago, the teacher had given us a test, he checked the exam copies and distributed according to our roll number. When it was the turn of my exam paper, then he showed my marks and gave the nick name to me, "how is your marks, I can't believe in your marks, you are like dumb people, dumb people can also catch few terms in the classroom but you can't catch the learning things, your mind is full of the buffalo's dung, your mind can't catch the mathematics terms". When Hitler told those events I controlled my hurt, at that moment I couldn't express my distress. If I was alone, I would express my pain.

Classroom Environment

In this epilogue, I have tried to focus on the classroom environment. Many of the classes were not providing democratic classroom environment, where the powerful people always dominated the powerless people.

I have tried to sketch the real figure of Hitler. During that time, Hitler was also responsible for making undemocratic classroom environment. Sometimes, I thought about classroom environment, where one person's rules were supreme, other students' voices were dominated by a singular voice. That was responsible for the inactive learning.

When our classroom arrangement is democratic, it helps students exercise equally. There is no any discrimination. In our classes, higher achiever students' voices are mostly heard, whereas low achiever students' voices should also have been regarded. When low achiever students give wrong answers, then students should not be focused directly on the wrong answer, moreover, the teacher should suggest to students with kind behavior. There must not be hesitation. Teachers should give attention not only to high achievers but should also focus on low achiever students. When teachers keep a close relationship with low achiever students, then students can express their problems without hesitation. . Many of children will not take pleasure in reading because they do not have the background to understand the material. "Students have felt what mattered most the relationship teachers established with their students were providing guidance to students who have felt inadequate or threatened" (Rose, 2000).

Luitel (2003) says that the power should be shared between students and teacher. When the teacher teaches in the constructive and collaborative approach, the students get some ideas on their own way.

Multiple Intelligences

I have discussed different intelligences. According to Howard Gardener (1983), intelligence is the ability to solve problems that one encounters in life. Intelligences can be exhibited in many ways, so we can say people have different intelligence. Gardener (1983) identified that multiple intelligences are musical, linguistic, spatial, mathematical, kinesthetic, intrapersonal, and interpersonal intelligences. In that way, I think intelligence is not only related to one thing. It is known as 'multiple abilities'. Intelligence can be developed. According to Davis (1994), the teachers directly or indirectly agreed that one needs to be born talented to

excel in math. Individuals undergo different experiences and exhibit different profiles of intelligences (Gardner, 1998). Moreover, math anxiety is not related to intelligence (Ashcroft, 2009).

Contextualization of Mathematics

It could be any day in 2002. Our economic condition was dependent on agriculture, we had some land, where paddy, vegetable, lentils and mustered were grown up. Our economic problem was solved by selling crops in the market. Our family was small, when we (me and two sisters) were small, so my parents were not able to work in the field since they had to look after us. Therefore, we gave the land to a farmer to cultivate; we would divide the yield equally between the farmer and us, the landlords. We would share the crops equally and invest in the farming sector equally (irrigation, fertilizer etc), but laboring was the responsibility of the farmer.

When the economy problem occurred, then we would sell the paddy in the market, but my parents suggested buying the fertilizer and necessary house hold things. Sometimes, we sold paddy in the market to combat economic problem. In this way, I could use mathematical terms in our daily life as mathematics calculation.

In our village, people suffered from economic problem but they didn't take money from banking sector. They felt it very uneasy to take loan from the bank since the official process was considered very difficult. So almost all villagers would take loan from the landlords and rich people in the village, sometimes my mother had also taken loan from the villagers.

It could be any day in January, my mother tried to pay the principal and interest to Jimmalkancha (well known person in the village), from whom my mother had taken a loan worth Rs 5000/- one year ago. After one year, my mother paid Rs. 1800/- extra with the principal. Then I asked her about that.

Me: Why did you give more extra money to Jimmalkancha?

Mother: One year ago, I borrowed Rs. 5000/- from Jimmalkancha.

Me: Why did you pay Rs. 6800/- instead of Rs. 5000/-?

Mother: Rs.1800/- is interest of Rs. 5000/-

Me: Is it interest? Oh, I have learnt about interest in school.

Mother: Did you learn about interest problem in school?

Me: Yes mother, I already know about interest formula, what is the rate of interest?

Mother: It is rate of sayakada tin, it means interest rate is three percent of 100 rupees per months.

Me: How do you calculate this interest is 1800/- in a year?

Mother: I think Rs. three for hundred rupees and calculated for Rs. 30 for 1000 rupees and multiplied Rs 30 by five then I get Rs 150.

Me: And? Next, you would multiply 150 by 12, is it?

Mother: Yes, because 12 months equal to one years, how is your calculation process for interest?

Me: I learnt only formula $I = \frac{P.t.r}{100}$. Where we can find interest, multiply the principal, rate percent and during time and divided by 100.

Mother: Yes, you get the easy concept but I feel easy with my process.

Me: Yes, mother. But it is a long process.

Mother: Yes.

It was the dialogue between me and my mother, which reflects our contextualization of mathematics. My mother had used her own mathematics concept, which was easy for her, her mathematics calculation was different from mine. This data clearly shows about our daily household things with our study, so the socio-economic status of the learner affects the quality of their academic performance.

Story 1: Teacher's Behavior

It could be any day in class nine; I was being tensed by studying subjects. In the government school, Opt. Math wouldn't be taken as an interesting subject; instead it was taken as a rather difficult subject. In the society, people would give high importance when a student passed Opt. Math in the S.L.C. from a government school. In the government school, one teacher taught at least 40 to 50 students. I think he could not focus on everyone. In my school, students would come from three V.D.Cs. The secondary school was four km far away from my home.

In the month of Magh, our body was shaking with cold so that we sat close to each other to keep ourselves warm. The teacher came to the room; we had already closed the window due to coldness. The teacher told us to open the window, he was wearing the sweater. But students were not wearing any warm cloths. The roof was made of tin. The tin had collected tiny drops of cold water in the roof. So in the morning period, the room was very cold. The teacher focused only on first bench students. The teacher did not move from bench to bench. I did not have a faintest chance to sit on the first bench due to time and places. My home was far away from school. It would take me one and a half hours to reach school therefore I was not able to get the first bench. Since the teacher only focused on the students of the first three benches, even for six months, the teacher didn't know my name. The period was only of forty five minutes, so; the teacher didn't finish checking the homework and class work of all the students. The students who were knowingly close, who were intelligent, showed good performance, were clever, got the chance to be cared of by the teachers. I was a bit shy since childhood and thus I did not have courage to talk to the teachers standing close to them, or standing face to face. I always feared teachers. I used to be

more frightened of the teachers than of my parents. When any teacher stood beside me, then my body would start quivering.

In that month of Magh³, we would sit too closely since the teacher couldn't see clearly to us due to fog. The teacher only focused on the first three benches. During that period, the teacher never moved from his stand point. The door was close to the blackboard, so the little light would pass and the teacher could write on the board easily, but we had a problem to visualize the words. The teacher never showed any interest in our interests. The teachers did not understand our problems. They only taught the chapters and talking to only four/five students, they would finish the class. I never made a close relationship with my teacher due to my fear of him. The teacher didn't give us to handle problems; and when we solved the problems, he would not check all the processes and steps due to lack of time. Our mathematics teacher never talked to students about anything out of the subject matter, so that we were not familiar with him. Therefore, I was less interested in the classroom. So, I thought to join the tuition class of mathematics. Then my parents had admitted me in a tuition class.

Relationship between Students and Teacher

From the above story, we can realize that I had felt discrimination in the classroom. The teacher did not pay any interest in my problem. He only focused on high achiever students. He also did not have passion for the low achiever students like me. Students operate as obedient listeners. They were without any detractors and collected the knowledge. The passive behavior and uncritical acceptance of other's idea might have serious force in their behavior.

³ Nepali month

Dewey (1996) defines democratic society as one that promotes participants of all the members of the society on equal terms to interact and value each other's view. Educationalists believed that interaction between students and teachers are fundamentally of learning process (as cited in Julie-Wilson 1999). Teachers do not remember all activities of the total students but they need to be able to recall certain information of even the last bench students, who are not talented in the subject matter, the students who are not confident on her answer.

Teachers should hold some interaction with the students. Interaction is the process referring to face to face action (Julie-Willson, 1999). Interaction can be verbal channel through written or spoken texts; or non verbal channel through touch, gesturing, proximity, eye-contact and facial expressions (Robinson, 1994, p. 7). Classroom interaction has revealed that students are the ones who tend to control the level of classroom interaction more than teachers (Good & Brophy, 1994, p. 30). In the above story, the interaction process was clearly shown. The teacher came and started talking to a few students and gave some mathematical concepts. However, they were not interested in the interaction process. While the teacher focused on the interaction process, then we actively participated in the mathematics process. Jones and Gerig suggest that there is evidence to strength the view that verbally active students are higher achievers. In his essay "The Mind of Man" states, David Thomas has written that "children who are yelled at feel rejected and frightened because a teacher shouts at them" (Thomas, 2000).

We can observe the classroom where some students are more active and some are passive, the reason for this cause is the interaction process. Some students are more active in the learning process and participate more enthusiastically than others. On the other hand, who are involved in less interaction with teachers get suffered in

their problems in the classroom. They feel nervous to ask about the problem with the teacher. So, in my view, when we keep the interaction between students and teachers, then we can succeed in reducing the discrimination between high achiever and low achiever students. In the classroom interaction, teachers are the important elements. Teachers have chosen interaction with children. Teachers can be effective model if they are trained and update themselves with teaching methodology.

The security of the child relationship influences children's development in many of the same ways on secure child achievement (Goosen & Ijzendoorn, 1990). Pant and Laparo (2003) argued that a positive relationship between teacher and child is as important as a high quality education. In the above story, I focused on the teachers who could not explain math well, i.e. no relation of math in student's life – even though math can be learned without technology. The last interactions between students and teachers are fundamentally of the learning process. Bandura (1971), in his observational theory, describes that behavior are acquired by watching another. So students can also learn from teacher's behavior.

Story 2: Is Active Mathematics Teacher Good?

It could be any day in 2004 A.D., when I was in grade ten, my math teacher was active in his class. We were sixty to seventy students in each section, so the teacher did not succeed in hearing our voices separately. And he only did his duty according to his routine; he came and did some exercises. We did not find friendly behavior in our math teacher, because he was always busy in his task to complete the exercise. On a day in Jeshtha, since it was very hot, students were feeling lazy to get engaged in the learning process. When the teacher came to the class and observed the class, he turned mad at us. Many times, I observed my mathematics teacher's face showing anger and I was terrified.

Most of the teachers only focused on first two bench students, they never turned to the whole students in the class. My mathematics teacher had never come in front of me and I had also never approached him. Therefore, a big gap between me and my mathematics teacher existed. Our mathematics teacher had never talked outside the content of the subject matter; never shared a joke and a story, so that we were not familiar with him. He showed strange behavior with students. When we were discussing with friends on mathematics problems, then the teacher would threaten us. So we remained passive participants in the classroom. In that classroom, the teacher was more active than students, he would should solve the problems and go and take the full class. He did not allow students to handle any problem, when we solved, then he did not check all processes. We had not much interaction with our mathematics teacher since he only focused on who was near with him and active in the classroom.

Interaction between Students and Teacher

In this episode, I am trying to show my classroom experience and relationship with my teachers. My teachers' beliefs about students affected their behavior towards students, as a result, in our classroom there was lack of interaction between students and teachers. Rosenthal (1974) divided teacher behavior associated with high and low expectations into four categories: socio emotional climate, input, output and affective feedback.

Teachers may also develop close and friendly relationship with all students where the teachers can have regular interaction with the students. Teachers can create a favorable environment for classroom discussion. In the learning process, teachers and students together can create knowledge in a variety of contexts and generate and address critical questions about the knowledge (Rochelle, n.d.). Through an active inquiry education students actively construct meaning in the natural world and the

simulated natural world within the classroom (Dewey & Piaget, as cited in Rochelle, n.d.). Teacher can judge the students' achievement by comparing their past record with the present level of achievement. When teachers use pedagogical approach which includes discussion, group work, alternative assignment, etc. then students become active and this leads to their good performance.

Fear of the Theorems, Laws and Symbols

It can be any day in class nine. For many months I had been engaged in an extra course to support my academic course. Since I passed class eight, my parents cared much about my study. So, they helped me to attend extra tuition classes. Our society thinks well when we pass with good marks in math, science and English. To get good marks in those subjects, we generally need to join extra classes. I saw many private boarding schools' students being bound by certain rules and regulation in the learning period. So, I think when we are bound by restrictions, our mind won't be sharp and creative. In class nine, I was also guided by similar rules and regulations, i.e. I was bound to get rest only from eleven p.m. to four a.m., which meant only five hours that was not enough to get rest for me. My mind got burdens; I did not show extra creative works because of not getting proper time for rest. I used to think my mind wasn't creative in the classroom, but my parents always asked me to focus only on study.

When for the first time I knew about the theorem and laws in class nine, I started rote memorization. In the compulsory mathematics, I learned different theorems especially in geometry. In my childhood, geometry was known as a hard chapter. I had learned different properties of different shapes in geometry chapter by rote memorization without clearly understanding the theorems. Still I remember some properties of congruent triangle. I had focused for long time on the theorem in

geometry. When I did not understand the property then I would go for rote memorization because I had become exam oriented. I did not understand why I was learning theorems. Where are their uses in future? I did not understand the area of uses of mathematics knowledge. The teachers also didn't give any clear idea on it. I did not have any chance to show extra performance in geometry due to critical situation. My teacher had chosen geometry chapters nearest to the exam period so we also felt that they had also difficulty in geometry. I used to think many teachers had suffered from geometry chapter.

In class nine in the compulsory math, I had learned theorems which were not applicable in our culture, society, and daily life, so I felt trouble in geometry chapter. In class nine, the teacher also focused on the theorem numbers like theorem one, theorem two, etc. When I knew about the sum of the angles of a triangle is equal to two right angles, still this theorem is known as the theorem number one. But in real situation, that is not necessarily included in theorem number one. When the question came in that structure of the statement form, I would get confused on which theorem number the question was related to. Then when I knew the theorem number, then I could solve the problem. During the whole time of learning geometry, I used to rote learn the theorems and laws without understanding. In the exam period, I would forget those things. Nowadays, I feel the cause of lack of understanding was not only my weakness; it was because of our philosophy which is belief about the theorem and laws. In the past, I used to think about properties and theorems in geometry as heavier things which were outside of our mind. I took geometry theorems and laws as ghosts. During the exam period, I used to focus more on geometry, I did not have any idea of calculation using the properties of the theorems but I had only the faintest idea to prove the theorems. When I saw the theorem on the statement then I would get

confused in understanding the theorem number since I had the habit of identifying the theorems based on the theorem number.

I get confused by symbols used in math. Mathematics uses own language and it seems strange for me. I get confused by the symbols such as $\alpha, \beta, \gamma, \lambda$ etc. The language used in English, Nepali, social, science are applicable and familiar to the everyday use, but the symbols used in math never came to application. My family also found it strange so I never got any chance to share the mathematical terms in my family. The language of mathematics was used only in the classroom; outside the classroom environment I also felt mathematics to be strange. We can memorize the term when we use the term daily. But mathematics was only used in the classroom, so I could not memorize the terms for long.

In class nine, our mathematics teacher was very active in doing the exercises. But he didn't allow us any chance to do the exercise. One day, he was teaching some algebraic chapter, where we learned H.C.F. and L.C.M., when we were ready for exercise, the teacher said "the time is very short, I think you have not any ideas to solve the problems, so don't waste time." Then he solved all problems himself. In this way, we could not get a chance for problem solving.

It could be any day in Shrawan, in the second period; mathematics teacher entered the classroom where all students were engaged in copying the homework from each other. The teacher only asked us whether we completed all homework, but he didn't go through the calculation process in the exercise.

In this chapter entitled fear of theorem, laws and symbols, I have tried to present how my teachers thought about students and discussed that they thought that students took geometry as a difficult chapter. The teachers always focused on exams, the teacher didn't give us a chance to present our performance in the classroom and

they did not give any feedback on our performance. The teachers used to think mathematics students as receivers where teachers as the sources of knowledge.

Is Mathematics a Ghost?

Math is an artistic subject governed by laws and logics. Mathematics also helps to make our mind creative. Many students (friends) who were bright, creative and good in the mathematics classroom could not show any good performance. I actually become so anxious while taking math tests that anxiety swamps my brains and I am unable to show what I learnt in the classroom. I suffered from math test phobia. I understood those chapters which were discussed in the classroom. When taking the exam, I tried to remember the mathematics process in the examination hall, at that time my mind often went vacant. I was confused about the answers, and thus could not write. In the classroom, I had some ideas about the process of solving a problem but in the exam period, I never had any idea on the same exercises. In the class work and assignment, I could do a good job in math and seemed to have good understanding of the mathematical problems, but I would appear dumb when it came to mathematics tests.

Many friends used to tell me that my performance was good in classroom but they didn't know about my weakness. I only showed the performance in mathematics in class which I already learned in the tuition class. In the morning period I engaged in tuition class and asked the classroom problem to my tuition teacher, and then I solved the problem in the classroom. In the exam period I got frightened of the exam. I lost my memory power; I became to be nervous when I got the question paper.

Learner Centered Teaching Approach

In both of the above stories, I tried to show the teaching learning approach in my classroom which was only teacher centric where teachers were only focused on

their own interests. They did not pay any attention to the children's interests. The society also took exam as more important than gaining knowledge. Moreover, teachers made the students text books oriented. Actually, when students understand the ideas behind the problems, then only they can get real learning.

Math is a science, but it is also a symbolic language. Students need to know what the symbols mean, so they can apply them correctly. According to Ernest (1989), mathematics anxiety has been accepted as not for average mind and this perception is prevalent in generations unchallenged.

At the University Level: Is Mathematics a Useless Subject?

It was 7:00 am; the sun was rising in a winter morning. The size of the mathematics classroom was little small. The classroom was quiet, where pen drop sound could also be listened if that happened. Mahendra Multiple Campus is the largest campus in Rapti zone and also famous for quality education, where many students from different districts and different communities come to study.

At the bachelor level, we learnt different mathematical courses, especially in the third year, mathematics analysis teacher came and started turning over his own copy, advising us to trace everything he said. In that class, all students looked serious at that boring class. Suddenly, one friend named "Hira" started asking some questions.

Hira: Excuse me, sir. What is Cauchy theorem?

Then the teacher defined the Cauchy theorem.

Hira: Sir, I don't understand Cauchy theorem. Please explain to me the relationship between our daily life and Cauchy theorem.

Teacher: Hira, it is not related to our context, this matter is not related with our practice. So, I want you to focus on your course.

Hira: Sir, why are we learning these types of theorems lacking practical use?

Teacher: It is not useful for our daily life. But in future when you will teach the students as me (teacher) then this study will be needed and you will also understand. So, our job is to learn this book and to teach the next generation.

Hira: Sir, how can we link and remember this theorem in our practice?

Teacher: This is not linked with our context. It needs rote memorization.

Hira: Sir, I am not satisfied with this curriculum matter, the mathematics curriculum is only for transformative knowledge.

Teacher: Yes, this is our obligation. This matter is not on our practical issues, so, we have to continue our subject matter.

The bell rang and he went out telling us to copy the theorem and rote learn, and warned us that he would ask us that the following day.

Some minutes later that period, we discussed the classroom dialogue which was an event before some minutes. We concluded mathematics as a useless subject. We were learning mathematics theorem only to show a mathematics course in our academic certificate.

This dialogue gives some clues about our mathematics curriculum. It is not practical. It raises the problems regarding mathematics teaching and learning. It also shows the poor relationship between students and teachers because teachers did not fulfill the students' desire and students were not satisfied with the teacher's teaching approach.

In the above story, I tried to show the relationship between the teacher and me. The teacher did not show any interest to talk with me and other students. He was bound by contents, so he had no leisure time. In that situation, students could not get quality education but only quantity of education. As Vygotsky (1978) asserts,

meaningful interaction happens when students interact in the language they are comfortable. Luitel (2007) advocated in his paper *the Shanai , the pseudosphere and other imaginings*, the process is not connected with day to day life world of students, the knowledge enacted by the teacher and students will be mystified and thus turn out to be largely meaningless. When we contextualize mathematics in our culture that is life affirming and meaningful, mathematics learning would be pleasing and easy.

It could be any day in 2007, I was studying at the bachelor level, where we studied theoretical mathematics subject, and those mathematical concepts were not linked with our daily life. We had focused on theoretical concept in our mind. The lecturer also shared that rote learning was the only approach to capture the term. When I learnt mathematics analysis and algebra subject, I found long and vast theorems in all chapters. In the classroom, the lecturer would come and turn his notebook and copy all theorems from the note book onto the black board. We always found the same activity of the lecturer in our class. I felt mathematics as a boring subject, where I did not find enjoyable things and therefore I had an anxiety towards mathematics. The mathematics terms were not linked with the terms of secondary level mathematics curriculum. Why do governments make policy for graduate students to teach in the secondary level? In the Nepalese context, secondary level mathematics teachers must have completed their bachelor level study in the respective subject. But we had not found any related terms with the secondary level curriculum. When algebra period came, we would feel lazy because of the subject matter. Algebra was also a boring subject where Mr. Algebra copied all theorems from the textbook and did not give us any concept. Mr. Algebra's behavior was as proud as that of a rabbit, we gave him a nickname 'rabbit' since his all activities were linked with a

rabbit's activities. He always used to come after five or ten minutes and would leave the class five minutes before the bell rang.

We felt difficulty during the algebra class. When teaching the chapter, the teacher would speak very fast and not clearly, so we were not able to catch most of what he said. But in the college level, I had not felt any bias in public campus since government lecturers only concentrate on completing the course, but they never focused on students' achievement. Consequently, the teachers did not feel familiar with the students. Where the relation between students and teacher was not so good; instead our relation was better with the student council. We had felt student council's activities in college life. The students' outcomes were measured by the central campus, so the teachers did not know much about the students' performance in the government campus.

I joined master level in our own Nepalese university. After I joined Progressive University, I felt different dimensions where the relation between students and teachers was close, tutors knew about the students' performance closely, but I found some of the tutors were guided by the same philosophy as in the previous university. Where I felt the different concept towards low achiever and higher achiever students, I felt discrimination in the teachers' behavior towards the low achievers and high achievers.

In case of one of the teachers Mr. Research, I found his activity different from other teachers. Mr. Research at least did not openly present the discriminative behavior. He focused on all students. Mr. Research motivated the students towards tasks, he never commented negatively.

It could be any day in 2012; we were focused on our research activity. Mr. Research had entered the room and showed friendly behavior. And he assigned the

groups task to choose possible research issues, when we showed our research issues, he commented positively. Mr. Research used to think everybody is perfect in his/her own sector, everybody is capable of something, but main part is confidence and passion. Mr. Research did not discriminate on intelligence. He focused on passion and continued effort on the task. His one quotation was very valuable for me “keep on writing”. I liked his motivating words, his all activities were related with his friendly behavior and he had treated all students equally. He provided the chance to show my performance. I was interested in the research subject because of the teacher’s behavior towards us.

Are Students Docile Learners or Active Learners?

In this episode, I have tried to bring out my university level experiences where I was also guided by banking concept of education, where I found teachers were depositing knowledge into students’ mind, where we had never applied such knowledge, where teacher did not provide such environment, not giving to think critically, so that students (me) were always thinking mathematics process as only for teachers. Similarly, in the childhood period, I found we all students were like robots, where teacher would put the knowledge as in the banking system, where he deposited his knowledge in the students' minds. The school personnel, family members and communities provided help and support to students for the quality of their academic performance with motivation and other extra efforts (Goddard, 2003).

In my view, rote memorization is also important but during the teaching learning period, we must focus on the concept of the mathematics terms but in our context, we started from rote memorization, and memorization was more emphasized then conceptualization. Math is not about learning by heart, but about learning and understanding symbols and ideas. Learning is culturally shaped and defined; people

develop their understanding of any things from their active participation in the communication and practice (Schoenfeld, 1992). The rote learning is not meaningful as much as contextualized or conceptualization learning. But rote learning is also needed when we keep some phone numbers in memory. Moreover, rote learning is important for learning things and storing for a short time.

Skemp (1971) cites rote learning as the initial cause of mathematics anxiety (p. 129). Memorization must finally produce anxiety because first, as mathematics becomes more advanced the number of routines to memorize places a serious burden on the memory and second, a routine works only for a limited range of problems. The classroom calls for student centered learning. It is the responsibility of the teacher and the students (Acharya, 2012). Students also play a vital role of Co-teacher to enhance meaningful mathematics learning. For Lama (2012), teaching professional is not only solving problems on the board but also making friendly relationship with the students. In our context, we have to focus on concept learning system; rote learning is another approach when we do not succeed in understanding it clearly through conceptualization. If we follow rote memorization for a long time, like mathematical concept, then our mind will go blank. We can't think of the reason and also do not focus on the process. So at first we can focus on conceptualization then the last time we may need help from rote learning system.

Chapter Summary

My experiences depicted above show my feelings towards mathematics theorem, exams, classroom, and teacher behavior. Teachers remove the mathematics anxiety form students when they find out which parts of mathematics are the students' favorite ones, start from there then students take them easily. I also elaborated on my weakness in the learning period. I have clearly stated about my societal belief, and

parental belief about S.L.C. Moreover, the above story clearly shows the responsible factors of anxiety in learning mathematics. The above data showed that some causes were of my own; while others were related to the teacher's approach of teaching, curriculum, national policies, etc. I have tried in the next chapter to discuss my experiences as a mathematics teacher in the secondary level and the factor of mathematics anxiety. As a student, I felt mathematics as a hard subject till that time when I was involved in teaching, but now, my perception is being rapidly changed.

In this chapter, I tried to sketch my educational journey since childhood. I presented my views towards mathematics, and S.L.C. examination. Regarding my first research question, I have presented oppressing moments which I had faced in different situations. In this chapter, I tried to present my oppressing operators like mathematics content, my society, pedagogical practice, society's view towards S.L.C., abstract theorems and laws and symbols, classroom environment, teacher's behavior towards lower and higher achiever students.

Teachers' teaching style was a very traditional method; they used lecture and drill, a lot of home work per day, strict rule and regulation (David, 2011). They did not connect the classroom experiences with the wider socio-political context; they did not recognize school as a public globe where learners and teachers fit into place in the process of deliberation and construction for knowledge (Giroux & Laren, 1996). It is better when we move critical pedagogy where we don't need to agree with one another rather we need to passionately engage in the radical discursive disagreement (Steinberg, 2007). According to Mewborn (2003), teaching is a continual journey where active mathematics teachers do not master teaching, but rather find themselves in a continuous state of growth and change. We found teaching is a system that is never finalized or fixed but a fluid process of continuous critical examination of self

and students where they are disrupted of old ways of thinking and acting and transformed into new ways of thinking and acting (Gomez, Black, & Allen, 2007). When teachers move towards democratic classrooms, they hear of students' voices. Their culture has value and so is everyone in the class. The teachers have several years of teaching experiences where they are guided by traditional belief structure about mathematics teaching and learning so that active participation , interest, reflection and critical understanding of thought are necessary (Freire,1994). When teachers need to include students and teacher's voices and lived experiences in the learning process (Woodrum, 1996), they might create a favorable environment for students to study.

CHAPTER V

ACTING AS A TEACHER: PLAYING AN OPPRSIVE ROLE

Chapter Overview

In this chapter, I have discussed my experiences as a teacher at different levels, where I have specifically discussed my feelings, classroom situations, beliefs, and attitudes towards mathematics subject. Furthermore, I have discussed the collaborative, constructive, and democratic classroom environment. I have tried to sketch the banking education concept and discussed the problems posing education system.

Acting as a Lower Secondary Teacher

After taking the exam of bachelor third year, I joined a private school as a lower secondary mathematics teacher where I taught mathematics from class three to seven. There, I found twenty five to thirty students in a classroom, where I had to speak loudly to make my voice audible enough for the students. I found some of the students not showing any interest. I found their behavior to be similar with my behavior in the past when I myself was a student.

In the spring season of 2009, I went to take my mathematics class in class three. When I entered the classroom, many students were still playing on the ground, some students were being hurriedly entering the room; some students were in the classroom making noise. While entering the classroom, they came in line asking permission for entering the classroom and they took their seats and followed my advice. After teaching multiplication process, I assigned them some exercises to be done. Most of the students could not follow the right process; I gave punishment to

those who could not write correct answer. After giving punishment, I found some of the students aggressive towards me. While I was teaching I found them not interested in my words. While I was solving the exercises on the board, at that time, some of the students were teasing each other, they threw copy from one to the other, and sometimes they talked in a low voice. When they were coping with the exercises from the board, they did not seem active; their activities made me feel bored. And I thought my duty was also completing the course. So, I controlled my threatening words and continued my duty. Again, I murmured seeing their activities but I controlled my anger. When I concluded my teaching, I came to the office then shared all activities about the classroom among the staff. At the same time, the English teacher added some points about class three students. He said some of the students were very dumb in their study, they could not continue future study. In those classes, students talked about their future, the boys would go to India for washing dish and girls would be married off without completing S.L.C. I also felt the same way as the English teacher did because students had in a sense tormented me with their dreadful activities.

In this episode, I am only teacher but not professional teacher, at that time I had no idea about how to teach, I had only knowledge about the content, I had lack of knowledge about teaching pedagogy, at that time I had not experiences about educational student. Still at that time I had only humanities sciences, I had lack of knowledge how to good deal with my students? , how can keep good relationship with students? So I was also going to play oppressing, where students gave some irritated, so I also play dreadful activities, According to Schmidt (2008) the teacher quality and teacher effectiveness is also play important role to motivate children learning interest. , it was also important for the teacher to recognize how they are interacting with students is also important. (as cited Lamb and Fularton, 2000).

Acting as a Secondary Teacher

After completing the third semester's exam of my master level, luckily I got involved in the teaching profession in Kathmandu. In this school, I taught mathematics to the secondary level students. Most of the students actively participated in their study. I was happy because I got a chance to implement the learning approach from Progressive University in my school. It could be any day in September 2013; it was my first experience in the secondary level mathematics teacher in the Kathmandu valley where teaching medium was English. It could be any day in September, in the school, I taught class eight to ten students. For optional mathematics and compulsory mathematics in the school, I found different attitudes in the students, some students were very smart in their study; some were very curious about the learning process. My teaching approach was also different in the classrooms depending on the nature of the classroom. In class nine, I succeeded in implementing collaborative and constructive approach. Some of the students blamed me "Sir is cheating us not teaching, where we are doing all exercises". In that class, my role was only a facilitator.

Class ten had two sections named Leo and Libra. Actually the Leo and the Libra are known as the names of the Zodiac, where the class ten had two section named from these names of the Zodiac. Where Leo's students were interested in learning mathematics but Libra's students were not. Leo's students were excited about doing mathematics exercises where they asked questions to me. Partik was talented and also curious in learning, when I started chapter and doing some process, then he did all exercises. Libra's students were passing with talking out of subject

matter, some time they made me feel bored. I found one of the students in the Libra section, Prajwal, who was much forward in other activities such as humor, cheating, etc. It could be any day in November 2012; I gave them a test after completing one chapter. I conducted the test in simple interest and compound interest chapter. From this chapter, I made ten questions with two marks for each short question. When I checked the test paper, some students got quite lower marks, when I got Prajwal's paper; in this exam he showed poor performance. When I went through his paper, I was confused. Was my teaching style poor? Or his ability was not so good. He had not done any answer correctly. Sometimes, I felt sad and remembered my past time in the exam period. In the classroom Prajwal was always doing task very slowly talking to friends. His all activities were very slow. Sometimes his activities made me bored, I talked about his activities in the staff meeting, and then my staff suggested "You don't have to give more importance to his activities because he enjoys in such type of activities. So, you try on your own way." After that day, I followed my duty on my way. In the classroom, I tried to focus on my teaching. Sometimes when students disturbed me, I would raise some questions to the students.

The Libra students were always engaged in some unusual activities, when the bus beeped its horn on the road, the students would look outside. When new guests appeared outside the school area, then the students would focus outside.

In November 2012, while I was teaching in Libra section in class ten, the period was just before the interval period. Most of the students would be thinking about the interval. So, I found some students showing laziness, while I was teaching. I would give class work to the students, they would try to do it for the whole time until the bell rang, when the bell rang then I could see unexpected activities - all students would get happy and turn off the copy and get ready to go out from the class. I would

scold the students when I saw that type of activities. The school was far away from my room, so; I always needed to go and come by the bus where three hour would pass on the bus. On that day, I was thinking about my student's activity in the classroom where I had found their different behaviors. Sometimes, their activities would make me amazed; sometimes, I would compare them with my childhood period.

This poem reflects my classroom activity. It could be any day in 2012, when I used to give assignments to my students to write a reflection about classroom. It was the daily work before five minutes left for the period. Some students reflected on the whole period in their writing, some students just pointed out main activities in the classroom, some focused on teacher point of view, some focused on teaching learning activity. Among the reflective writing, I found one poem from class nine students. The students had explained in his poem about the joy gained from a collaborative classroom.

The Good Teacher and the Bad Teacher

When you were not heard we use to cry.
 Without reading we used to lie.
 When you came the times change
 Of our respect there is no range.
 You gave examples to us
 All that glitters aren't gold
 But the only example is
 Your are the glitter more precious than
 gold
 He was rude but, you are a dude
 He use to beat us, you are cute
 He was the man who was not liked
 That's the reason you are inside
 When he was here, we used to curse
 When you came we all see the universe
 You are good which is a fact
 He was really rude in fact
 The one who never beat
 The one who could tell us to sit
 Even if you make a mistake
 For you there's always a piece of cake.

In November 2012, in Leo's section, I found similar activity of one girl student, where I had done some numerical and given some class work. After giving the class work, I moved to the students to check the class work. At that time, one girl frequently observed her watch and asked her friends Rina in a little voice "how much time is remaining for this period to be over?" I was baffled at her activities and I felt why the girl was not enjoying the mathematics classroom. One day, I was suffering from cold, yet I was present in the classroom. While I was teaching Optional Maths in class ten, one student asked with sweet words "We are considering about your absence, why do you attend the classroom at that painful period? She again put her words "Sir, I found you always present in the classroom, are you not busy with another work? Then I immediately asked her a question "Will you be happy if I am absent?" Then she replies "Sir, I am not happy in leisure period but my intention is only for the business of work." After that period, I thought her intention about that type of question was only for passing leisure period talking with friends. Really, I was happy with the students of nine class, where all students were active and laborious. I was always late for that class because I taught them in the second period. Before the second period, I had to teach class ten Optional Maths, so I always took some extra five to ten minutes in class ten. So, I was always late for class nine. When I entered class nine, I always found the students being involved in their task actively. Sometimes, I shared jokes and mathematics games for motivate the students. They frequently got involved in group work. My role was only the facilitator or coach in the classroom. I only gave them hints for solving process. In that classroom, students were getting clear concept about the subject matter because they were actively involved in the activities. My behavior was friendly, so it helped me know their performance and teach the class accordingly. Students often shared ideas with each

other and did not feel any kind of discomfort to ask questions. I saw collaborative approach working well in class nine.

It could be any day in January 2013, the climate was cold. The students were in warm cloths and sitting closely in the bench. So the last two benches were empty. They closed all windows except the ventilation for light. I continued teaching proportion, some of the students got a clear concept about mathematics properties and going to prove. One student Sagar was confused about my explanation, so he was unable to catch the term; he was asking Suman for getting the concept. During that time, Nishan asked me to check the process of doing. His bench was situated behind Sagar's bench. While I was observing Nishan's copy, I got a chance to observe the activity of Sagar and Suman. I frequently observed their activity and Suman tried to give a clear concept about dk and bk properties. After sometime Sagar shared with Suman "I get a clear concept of the property." I was happy with their activity. In class nine, I encouraged the students to be involved in discussion, asking for help in the confusing process. When I found the students silent then I felt that students were not getting meaningful learning. I remembered my activity in the past period. When the classroom was silent, then I used to remember out of the classroom's moment and feel lazy. While the classroom was found discussing then physical and mental structure was running and getting active. So, the mind could not get a chance for being passive. I liked this kind of class.

Students of Class Eight: Anuj's Amazing Activites

In the lower secondary level, I taught class eight, where the students were very curious to know about new things. I found eight class students very innocent. The first day in that class while I entered the classroom I found all students were following rule and regulation. When I saw their behavior, then I thought it was the sample of a

good classroom. Where students followed my advice, they didn't make a noise, even some of the students felt nervous to talk with me. Some of the students felt shy to ask questions. But when I engaged in the teaching process, I became more familiar with them. I also compromised in their mistakes but they disturbed the classroom making a noise. When I saw that type of activities then my anger would increase and I would scold my students. They were controlled at that time. When I started doing some problems on the white board then students would start discussing with each other. Every moment when they get one type of issues they would start quarreling. Sometimes, I gave punishment to those students who were very disturbing in the classroom.

It could be any day in October; I was delivering a lecture in transformation chapter moving bench to bench to teach the concept about rotation. When I finished the process, then I asked as my regular habit "did you understand?" Then I found most of the students nodding their head 'yes sir'. Then I was amazed, and then I started moving bench to bench observing their activities. One student whose name was Anuj might have a problem but he also nodded his head. Then, I asked about a process how it came? And then he could not reply. I searched mathematics instrument, he didn't bring graph paper and protector. He tried to get from his friends, when I moved to his bench, I didn't see any mathematical instruments, where geometrical instruments were needed for rotation chapter but Anuj didn't show any interest in that class. He was always busy talking with his friends. His activity hampered the classroom. I asked a question to Anuj, why don't you have any mathematical instrument in today's class? He immediately replied "sir, I didn't come yesterday so, I have no instruments."

After a day I again observed his activity, his activity was disturbing other friends and the classroom. Again I asked a question to Anuj, "Did you bring geometrical instruments?" He said "sir, yesterday evening, I searched instruments at my home but I could not get them." Again I asked "Didn't you inform your family members about mathematics instruments?" Then Anuj replied "Yesterday my mother hadn't been at home because she had already gone to her father's home (grandfather home) and I did not have any confidence to share my voice with my father, so, I didn't raise my issues with my father. Then I compromised his activity and asked other students to help Anuj with instruments.

I got more experiences as a secondary mathematics teacher where I found some of the students being very active in mathematics classroom and some were passive. It could be any day in September 2012, where I was teaching in class eight. I was teaching the trigonometry chapter. I had proved some identities and I asked the students to copy the process of solution from the white board. I found some students were busy playing with window, where they kept on closing and opening the window., Some students were discussing that issues, where students on the right row were favoring the opening of the window and the students on the left side were of the opposite view. When I saw that type of activity I knew the real problem in that classroom. The students of the last bench didn't copy from the white board where they found it difficult to see due to light. I suggested that they should copy from their friends at the side.

In the above data , I tried to present one of the students' classroom activity how it could lead to create an oppressive classroom setting. The students behavior made me irritated and I was enticed to play an oppressive role in that classroom. If, on the other hand, our students engaged in discourse with teachers and classmates, may be math

will be seen as a dynamic way. When teacher and students keep close relationship then students can ask questions freely. The relationship is dependent on how a teacher presents, deals and interacts with the students in the classroom (Khatri, 2012).

According to Piper (2008), students attitudes of mathematics and their learning interest is related to each other, he also believed that if students begin to develop the conceptual understanding of mathematics then their attitudes about math, their confidence in understanding math and their achievement will improve.

Acting as a Home Tutor in Umbrella Foundation Nepal

When one session completed, I earned one year's experience of classroom teaching as a secondary level mathematics teacher. It helped me to know about students' behavior toward teachers in the classroom, and I had analyzed my behavior towards students. Moreover, I knew how I could succeed to use my teaching approach in the classroom. At that time I was excited to know what the behavior of students out of the classroom was. So I was trying to find a child care center where I had to know how the behavior of students towards school's teacher and school environment was. To do this, I resigned my teaching profession at the school level and searched a new job, where I would have to spend more time with students; it would help me to understand the students' attitudes towards schools. Luckily, I got a chance to get involved in one INGO.

The project cared about 300 Nepalese children, the children who had lost their parents, and those who were getting good education due to their economic condition. The role of the INGO was to give quality education in a caring family environment. I acted as a house tutor in Umbrella foundation Nepal which would help Nepalese children get quality education. That opportunity let me learn about students' behavior closely. I was always near them, so I came to know about their behavior

closely. Some of the students were very lazy whereas some were very active in every field, in academic courses, sports, dance and music etc. Where my role was to facilitate them and help them in their home work and other study. From the experience about six months with them, I found students' learning habits and their activities out of the classroom. So, it helped me to do my project work. Where I was working in the morning and evening time in the hostel, in the evening, they would come from their school and share their activities during school hours. Some of the students also shared about the behavior of teachers such as principal, mathematics teacher, Nepali teacher, English, social teacher, etc. I heard some of the students blaming different teachers according to their relationship. Some students blamed Nepali subject teacher due to his teaching style and relationship with them. This way, students talked about their anger with me.

When they came from school, then I met them in the evening dinner time where they would talk about school activities with each other while taking dinner. I found they were expert at nicknaming their teachers, such as bhude for mathematics teacher; their mathematics teacher had a big stomach, so that they nicknamed him bhudhe. Some of the students talked about their social teacher giving a nick name neta (political leader) because the teacher's teaching style was only lecturing. Some students shared about the good behavior of their teachers. I heard them talking about their science teacher who was very good for them. The science teacher's behavior was friendly with them; he had not tortured the students. From the students' view, their science teacher was never smart. Mr. Mohan, one of the tenth grader belonging to Umbrella Nepal, shared his friend's behavior. His friend always sat on the first bench, his friend was over smart in comparison with other friends due to closeness to the teacher. He told me sometimes they (he and his friends) felt this classroom was only

for him. Then I asked why he was angry with him. Then he replied, that was not good, he didn't give any chance to ask question for others in the classroom. Then I replied that was his mistake because he was not being upfront in the classroom.

One of the students, Raju, who studied in class ten, always felt weak and tired about his study. In the morning time, I always used to call them out to get up, but some of the students were not waking up in time. Raju was also not active in the morning, I was amazed at his behavior when in the sports time, he set alarm on his clock and he would already wake up without giving a notice. Why was he so interested in sports rather than in study? When I talked about this subject matter then he neglected those things. In August first week, his first terminal examination was coming near, similarly Coca Cola Cup Interschool Football Tournament was also running, in that period he practiced football instead of preparing for the exam. Moreover, he went to participate in the football tournament leaving the first terminal examination. I went close to him and talked about his interest areas such as sports, and lastly I gave him some test to check his multiple intelligences. And finally I knew that he had kinesthetic intelligence, he was more interested in sports, such as basketball, dance, race, etc.

I found different behavior of Raj. He was always busy studying; he was active in his study. He shared his views that he was anxious to learn from teachers but he could not maintain a close relationship with teachers due to his shy behavior and less confidence. He told me that his teacher used to apply different methods. In the profit and loss chapter, I found his teachers using short cut method, when some articles had the profit of 20%, then his teachers said SP was equal to 120% of marked price, but students got confused about percentage. He asked me why percentage was above 100.

And when I used profit and loss formula then he got some ideas and felt easy. This was the reason of unequal process between text book and his teacher.

In the morning time, I taught Raj and other students. Raj was anxious to learn, when he asked mathematics problems then he would focus deeply. He had more concentration on every process, sometimes he got confused over minor things. When I focused on his mistake in the process, then I found he would have made simple mistakes. Sometimes, he would make me feel bored asking minor things in the process. When he got more confused in the process then I would sometimes threaten him. I would say, why can't you do such minor things in your exam? How can you forget in such a short time? I thought it was harmful for students but my intention was only to make him aware of his mistakes. Sometimes, he also made me angry, he would raise questions how can I write answer when you don't show any interest in teaching me? At that time I would reply, "Your intention is very bad, you think I always help in your homework, but my role is only giving hints." When he asked all questions of home work then I suggested to him to do the remaining questions himself.

I found him to be very active but he could not catch up simply; so he needed to get help for deep learning and concentration of mind. Sometimes, I was angry about his passive mind, he would take a long time to understand basic things. When I put all efforts to give them a clear concept about the process, then he would not follow through. Then I would feel angry with him. But I would control myself and turn to my duty. Most of the students were busy doing their homework, and I found my role to identify those children; I had to give more focus to Raj and less focus to Raju. Many times, I visited Raj's room and asked about his study. Raj always asked me and appeared friendly to me, he shared other subject matters, too. So, he could enjoy with me, sometimes, I insulted him, but he always paid interest to me. So, it could help me

to teach him. But Raju never came with me with his assignment, he never asked me and when I asked about his homework then he would easily reply that he had finished. Raju is always busy copying the homework from other friends and when I gave some clue on the process then he would nod his head in every point making me feel that he understood everything. But I was amazed when he could not reply while I asked him any question. So, this made me treat each one of them differently. According to Freire, a problem posing student is not afraid to speak his opinion about a topic, the student does not depend on the teacher to come with all the idea, they must be willing to learn from inside .

In this episode, I brought the discussion of the activities out of the classroom especially in the morning and evening time. Different people have different Intelligences so they try to give more focus on their own field of interest. I tried to explore which kind of behavior they showed outside of the school, and how they thought about their teachers' behavior towards different students.

Freire (2005) claims in pedagogy of oppressed, education as the practice of freedom, where our education system is a mutual process. The dialogical teaching is to create a process of learning. he also claims that when the classroom is only teacher centric then our students not different with computer or Roberts , so we give chance problem posing education system , where students are critical thinkers , they do not sit and listen they are very inquisitive . Where our knowledge is create from interaction between teacher and students. Leistyna and Woodrum (1996) claims that both teacher and students to develop an understanding of the interconnecting relationship among ideology , power and culture . The classroom experience to the wider socio- culture community recognizing school as a public sphere where teacher and students engage is process of setting of democratic classroom. Dewey and Piaget

, who advocated the best in learning environment which offers students range of activities source of study and opportunities for interaction .

A Beautiful Dream

While I elaborate on my experience, I am growing to be anxious and thus thinking about the future. In this Beautiful dream, I try to put my opposite views about rote learning concept so that here I present two different points of view. I present my dream about constructive teaching learning.

I will wake up really early on a Saturday morning in 2017. I will feel anxious like hungry animals. I will wash my face with cold water but I won't carry my cap because the weather won't be very hot in the morning. I am excited to teach bachelor's level. I want to teach mathematics analysis. Mathematics analysis is much worse than when I tried to write on note because that notes are just for me.

Nowadays (my mathematics teacher's son), Bimal is my student. I feel lucky because I am teaching my previous teacher's child. My mathematics teacher had taught mathematics analysis chapter. Nowadays I have got this chance. In the first class, I knew Bimal. His characteristics gave me his father's impression. When I started teaching mathematics chapters, then I found his activities. He already had spoken the statement of the theorem. Then I asked some information about him. He gave the information about parents. I knew his father had taught same mathematics courses before some years. But recently his father got retired from the job. Then I got the idea about his cleverness in the classroom. He continued putting some words for his family environment. I found Bimal also guided by the traditional philosophy. His father taught him mathematics analysis chapter at home. His father had given characteristics of the mathematics analysis course. I knew his idea on rote memorization but at that time I will teach Bimal not in the same way. I will focus on

understanding. Bimal gives more emphasis on rote memorization. I will try to change his perception about mathematics. I will give some ideas in the classroom. "Rote memorization is very harmful in our study. You cannot get success in understanding. In the future, you will get problem." At that time, Bimal tried to stop my words. He says about his father's idea. "We can get good marks in subject even by rote memorization."

At that moment I was remembering the moments in the previous class. There was no one around and I was the only person riding the motorcycle on the east west Mahindra highway. I was going to take my extra classes in a private college. My mind catches up the moment in my class's experiences; I could see a far distance. At that time, I was riding a motorcycle on the road suddenly one public van blew the horn at me, Pip! Pip!! Pip!!! I guessed he wanted to overtake me. I took the bike on the side. Some peoples were passing on the road. When I stopped my bike, the ringtone of my cell phone went Ting! Ting!! Ting!!! I looked at my phone and found an unknown number 98xxxxxx07. Then I received the phone.

Unknown person- hello..... .

I - hello....., who are you?

Unknown person- I am Bimal's father. Mr. Devekota.

I- I beg your pardon? Sir, I don't know Bimal.

Unknown person- Bimal is studying in Xxxx College in the bachelor level. It means where you are teaching.

I – Sorry, Namaste sir, how are you?

Mr. Devekota- I am fine and you?

I- What's going on?

Mr. Devekota- Nothing. Alright! How are your days passing by?

I- Sir, I am engaged in a campus. I remember the past while you taught us.

Mr. Devekota- I am retired from my job some years back, and nowadays I am taking some classes in my private institution.

I- That's a good thing being active in the education field.

Mr. Devekota- How is my son's performance in the class?

I- Sir, Bimal is perfect in all activities, he is interested in both academic and other activities.

Mr. Devekota- Bimal said something about you.

I- What? Sir.

Mr. Devekota- Dilipji, you try to focus on understanding but by this way you cannot finish your chapter. And Bimal also says you do not like rote memorization system but it is the one way to success.

I- That's right, sir. But when we are involved in rote memorization, our learning is not long lasting. So, I am focusing on learning with understanding.

Mr. Devekota- Dilipji. You recall your past experiences, what was your condition? I always told you to rote memorize the exercises, and it was the only one way to success for examinations. But, nowadays, you have forgotten those events.

I- Sir that was our obligation. But nowadays I am trying to focus on making my students understand each chapter.

Mr. Devekota- That is a good idea. But at last you need to get help from rote learning system.

I – Sir, the most important thing is motivation and philosophy. This depends on the teacher's hand.

Mr. Devekota. - How could you succeed in changing the students' habit?

I - Sir, motivation is important, when we give positive response to the student's work, it helps them to follow through and excel in whatever they do. When we give the concept of rote memorization, they will follow the same behavior in their life. So, we should try to focus on the concept of understanding.

Mr. Devekota- I support your personal idea, but in our context it isn't fit and applicable.

I – Sir, we have heard one quotation “when we need to change the world then we should begin from oneself”. Likewise, we should make a link of mathematics terms with our context, so that we won't need to rote memorize anything. The learning system itself would be memorable while we link the mathematics terms with our context.

Mr. Devekota- Yes, I understand your philosophy, you were not enjoying mathematics curriculum without it's linkage in our context, and

.....

Hello.....hello

At that moment, Devekota's voice was not heard clearly. May be due to the cause of network problem, after some minutes the phone got cut.....

I waited some minutes for Mr. Devekota's phone. After waiting for some minutes, I started my bike and continued on my destination.

In the similar way, I remember my past moments of study which I will not forget in future. In the above episode, I tried to show different views on the mathematics subject. Some issues presented mathematics as a useless subject, if we cannot concoct mathematics subject in our familiar subject matter then we feel mathematics subject as useless and boring. While we have the concept about using mathematics terms in our daily life, we feel mathematics terms as our own property.

Chapter Summary

In the above episodes, I found the students' performance is determined by classroom situation and their willingness. And I tried to present my experience in the teaching phase, where I tried to oppress my students and I used to think some students were always poor and I also did not focus on those students who were passive in the classroom. I tried to analyze my views not of the students and sometimes I discriminated low achiever students. While acting as a lower secondary teacher, my teaching style was that of a traditional teacher, I used lecture, drill, gave a lot of homework daily, frequently asked questions and was strict about rule and regulation.

After my enrollment in the M.Ed program, I have been engaged in critical pedagogy. Since then I have been trying collaborative and constructive approach at times. I have tried to use Freire's concept of problem posing education, where we (teacher and student) teach each other (Freire, 2000). When I got a problem in some mathematics calculation then I needed help from students, where students gave some ideas. In the traditional teaching and learning phase, I did not concentrate on my students where I used to think that students were only the receivers of knowledge, where I put my knowledge on students' minds (Freire, 2000). When teacher and the students create a partnership, then both are empowered to enter into a dialogue and begin the process of humanization through interactive action. When teacher and students learn from each other and help each other to learn then they move out from oppressive situation (Freire, 2000).

According to Marie (2004), the effect of culture of head nodding appears to be a near universal gesture; there are clearly important cultural influences on non verbal communication. In our culture, head nodding is interpreted as a gesture of understanding and agreement of teacher's voice. By students head nodding we can

think they are listening, understanding and agreeing with the speakers but we must examine their head nodding importantly (Marie, Stephanie, & Alison, 2004).

CHAPTER VI

PEDAGOGY OF THE OPPRESEED AND RESEARCHING MOMENT

Chapter Overview

In this chapter I have discussed research writing period and I compared oppressing and oppressive situations in my view. I have discussed my experiences as a teacher trainer on ICT in education and my field visit experience, how I found different levels of students using new technology. In this chapter, I have brought how I changed my belief through some books. Can ICT based education system decrease the oppressing situation?

As a Researcher

While I joined Progressive University in MEd level, many times I listened about thesis writing. Somebody said “You will complete all semester but you will be discontinuing in the thesis period.” Actually, I didn’t know about thesis, sometimes I saw the wall posts and pamphlets informing us about thesis. Some of them read: “when you need any type of thesis, then the thesis is available in the market” where our duty was only to buy the thesis, and actually some other universities’ theses were available in the market. Therefore, I was never disappointed about the thesis period, but when I joined Progressive University, I took this issue importantly, where thesis writing is the learning period of our life. Now at this moment I am realizing it.

The term research is made by two terms “re + search” which mean searching again. Who searches or observes the searchable things is called a researcher. So now at this time I am also a novice researcher. I am observing my experiences in different stages of my educational journey.

At the stage of research period, my perception towards the nature of mathematics subject was different as a student, and as a teaching professional. In the childhood period, I thought mathematics as an abstract, boring and hard subject. I think teaching pedagogy was responsible for students' performance, when I get low marks in the exam; I blamed the teachers that they only focused on the talented students. In the college level, I thought mathematics was only for getting good marks in the exam, where it helped to increase teacher income. I always saw many of the students joining tuition classes for mathematics.

But, when I was a teacher, I thought mathematics is a fallible subject that is changeable. At the teaching period, I suggested to students “to do more practice and take it easy and enjoy mathematics’. Teacher has an authority to control his/her students and teach the students, but when I was a student, I was sad about my teacher’s behavior. Nowadays I am a teacher, I am sad about my students' behavior.

On November 10, I taught “time and work” chapter. I shared the rule of time and work. One student got confused and could not understand the concept. When I was a student, I also got confused in the time and work chapter and got help from teacher and friends. But at this time I am a teacher, when I teach “time and work” chapter.

While I am writing this dissertation, I feel teacher should get teachers professional development trainings. That can help them to be motivated. Motivation is important in the education field, when teachers are motivated about their own life or satisfied with their professional needs, then their professional endeavor is effective. When I was a student in the school level, I didn’t get a chance to be motivated to learning. But when I joined master's level, the tutor motivated me to learning. When I was a teacher I get involved in active learning with students. When students feel any

problem I suggest to the students “get help from friends.” This way, students are involved in collaborative work, they solve the problems themselves.

Acting as a Teacher Trainer with OLE

It could be any day in 2013, while I was following my regular duty to continue on the college for doing assignment and to continue doing assignment on my research work, in that regular time, on the January twenty seventh, my friends and teacher gave information to participate in TOT, (trainer of teacher) which was related with integrating teaching learning with ICT. It is the 21st century, so most of the countries are following educational teaching strategies linking with computer application.

On 27th January, the OLE Nepal (Open Learning Exchange) members came for selection of trainer in Progressive University, that day fresh and energetic candidates were present in the conference room of the University. They selected eight students, luckily, I was also selected. The participations were from different backgrounds - educational management, English language teaching, mathematics education and sustainable development. After being selected, we got information about the program.

We were the trainers for government school teachers in different parts in remote areas in Nepal. We helped teachers in integrating teaching learning with computer in the classroom. Our role was very important to share the ICT learning, where we had taken three days of training for seven hours each day. Being a volunteer of OLE program, I got many extra information related to the field of education. I also visited a primary level government school, all teacher staff were dutiful and sincere in their duties but the school was situated in a remote area. Where we found lack of faculty but they were trying to impart quality education. On that day, we observed teaching techniques in mathematics, science and English classes. From

those classes, we found the lack of teachers' knowledge about lesson plan of teaching and lack of use of teaching materials but we were happy about their teaching with the available resources.

In three days' training, we discussed rich information about our Nepalese education system, where we shared educational issues, knowledge, teaching techniques, etc. The OLE members also shared their knowledge with us. We also discussed curriculum content, and teaching learning strategies. An OLE member shared one example of our Nepalese curriculum and

TRANSFORMATIVE TEACHER

*Oh! Maths teacher you are good
What? If you do not feed us food
In our mistake, you would not be rude
In fact, you are the best dude*

*Chapters and lessons that you teach
Are going to help us to reach
In the top of the world
No matter that you scold
You told us to do math
To get in future, a good path
No matter you do not let us park
But help us get more marks*

*What? If there are proportion and set
You better teach us, I can bet
What? If you do not wear glasses?
But you give us best classes
I know that you are the best
You teach us without a rest
You make us capable to be
You are just my best thee*

*When you suggest not crying
It is for our future I do not lie
Nowadays I am becoming constructive
All we are taking math is positive
When you use collaborative methods
We share knowledge with each other.*

teacher teaching technique. He described a chapter of social studies from class three, where the chapter describes particular place information about Lakhan Chaudhary, where Lakhan lives in Dang district and Lakhan's father is involved in farming. He has two sisters, etc, the book was distributed in every sector, after teaching this chapter, and the teacher asks the questions on the book. Students write the same

points in the book, but our Nepalese curriculum specific objectives are not only this. The objective in this curriculum was to get knowledge about students' places, their fathers' professions, etc., but students from other regions also get the same knowledge. Karnali or hilly region students also get the same types of education. In Nepal, the geographical situation and castes are different. But teaching style is responsible in this factor, teacher's role is more important. Similarly, teachers are not concerned with student's previous knowledge; they do not understand students' previous knowledge and not link their knowledge with prior knowledge. Teachers should be aware of the students' interests and intelligences so that the students can enjoy the learning process.

The poem entitled *Transformative teacher* reflects the comparison between the traditional teacher who is carrying teacher centered approach and a transformative teacher who is guided by collaborative and constructive approach. The students find the difference between both pedagogical approaches, and they are enjoying collaborative approach more, they also reflect on the activity in the collaborative classroom. Students enjoy sharing knowledge with each other, students view has been positive in that classroom and thus they do not feel oppressed.

It could be any day in the month of January 2013; this should be my sixth month in the teaching profession in the secondary level. After observing the result of second term exam, where some students' results were very poor, I tried to focus on classroom environment in a democratic system where all students were same in front of my eyes, where I gave chance to their voice, while they could do easily according to their will, they could discuss the problem with their friends and get involved in group work.

When I visited five schools in Bagalung district, then I saw they made a routine for using E- library for those who did not have regular access to E- book such as class seven to class ten students. The room, where OX laptops were used, was neat and clean and was facilitated with enough carpet and desk bench. They had made rules for using Ox laptop, hung the job cart on the wall, and listed the rules on the hall. The sitting arrangement was also democratic such as U shape and somewhere round or circle shapes. That type of classroom, where learners felt democratic environment, they asked questions, and shared each other's activities. We found the role of teacher as a facilitator or a coach.

When we discussed the ICT based education system with teachers, then all of them shared the situation about classroom and students' performance when using E-books. Students' performance was much better than earlier. After the discussion about the benefits of E-book learning, I found that students were not thinking teachers as superior and sources of knowledge. In this situation, students do not feel any kind of oppression, where we are not compared with banking concept of education. According to Freire, students in this system are "holder" that are to be filled with the subject content of the teacher recitation. In the banking concept, the teacher is the authority and the students are oppressed. It can be removed only when students and teacher become partners in critical thinking. According to De Lange (1995), a task that is open for students' process and solution is a way of stimulating students' high quality thinking about digging out from the oppressive situation. However, it is necessary that dialogue be established between teacher and students, the individual learns to do just that to understand and transform reality. A man does not create himself in silence but with the help of words, action and reflection.

According to Fraire (2005), when we were students, then we were deposited of all knowledge. Now, I teach at the secondary level in class ten, I follow the same traditional technique. I could not succeed in implementing constructivist and collaborative approaches. In class nine, I completely follow collaborative approach where Junu, Susmita, Nagina, Anish, Nishan are joining in group work, where my role is only a facilitator, where I only give hints. After joining five month school administration, teacher staff and students, I tried to move on my way to progressive education system, where I create the chance for students to create knowledge. I give a chance to their feelings, to share their concepts. Sometimes, I share motivational jokes.

When I saw their performance in the second terminal examination, then I changed my teaching technique assigning to write a reflection about every day's class. When I teach them mathematics in class eight and nine, I allocate five minutes for reflective writing. Students are also engaged actively in this process.

In class eight, I divide the class in groups and assign the task of self study and try to point out some important themes. They are engaged actively and try to share their findings. In this way, they are engaged in self study habit, take positive direction, try to balance classroom situation involving in group work, but some students in class ten still discuss with each other out of subject matter.

When I suggest making group and be involved in discussion on subject matter issues, then they try to get involved for some minutes and after some minutes, they do not concentrate on the subject matter. When they are engaged in group work, then they make loud sound and disturb another class. But class eight and nine students are engaged in group discussion and solve problems among the group members. Actually the students enjoy this type of progressive learning; my aim is to develop their

motivation towards self learning. I always encourage them to share their ideas in the mathematics solving process.

I am not satisfied with the Nepalese education system where students' performance is determined only through three hours examination since their achievement cannot be limited to the scores obtained in such exams. Instead, students' performance should be determined by classroom performance, homework, group work, attendance and other important things. Moreover, the government has made the policy on screening students for SLC exam where if a student's attendance is seventy five percent, then s/he passes out the send up examination. In the classroom, a student learns at least some things whether he or she is involved passively. So attendance is also important thing as well as examination. Therefore, the evaluation system needs to be dependent on continuous assessment system since the students' performance depends on various activities in the learning period.

It could be any day in February 2013, where students took their third performance examination; I have already given them second performance examination, where all students showed good performance. In this second performance, and second terminal examination, I set the questions from the exercises of the book. Since the students had already learnt in the class, they did better in the exams.

According to De Lange (1995), a task that is open for students' process and solution is a way of stimulating students' high quality thinking. According to Hoalford (1995) and Toyanova (1998), there is an increased emphasis on giving students opportunities with problem posing in mathematics classroom. In the third performance, I set the questions based on problem posing education where I tried to

bring creativity and interesting questions for students, where the students took even the unknown question easily and were involved in critical thinking.

Problem posing is a natural process of mathematics learning which emphasizes that new problem is not on the solution but on creating new concept. In my view, every day and every moment we must learn new things so that students must get new knowledge, students' performance is evaluated on their critical thinking, so that I bring the critical question, students present their performance on their activity, they do not simply present rote memorization concept. During the examination period, I found students very enthusiastic and curious about learning. If they were confused by the question in the exam, when the exam was over then they would come to me and ask "is it related with our exercise book?" then I replied about that type of question. They felt uneasy and hopeless when they spoilt the exam, they would also get angry with me telling that all questions were unknown to them.

But actually I was on the right track, where I searched creativity on the students' performance. While checking the exam paper I found students' performance good. They had tried to present their creativity and critical thinking on their answer sheets, they had tried to mention on their own way of solving. I was satisfied with their performance. I set questions on the four categories according to present number sentence to create word problem, giving a picture or drawing to formulate word problem, giving a mathematical language to formulate word problem, displaying student's solutions to formulate word problems.

Rochelle presents the conceptualization of education as a process through which teachers and students create knowledge together in a variety of contexts and generate and address critical knowledge. Dewey and Piaget argued active inquiry through which students actively construct meaning in the natural world and simulate

natural world within the classroom. In problem posing, students judge their achievement by the comparison with their own past record or with comparable students who have the same learning task and probability of success. Pedagogy of the Oppressed (1970) contains Freire's famous critique of the banking concept of education "students are representative as waiting to be filled with the tutor's official or readymade knowledge; education thus becomes little more than information transfer - an act of depositing concept."

Reflection of Divaswapna

While students completed the last annual examination in school, the school provided vacation for ten days, so that time was free for me. At that time, I often listened to the radio program while the radio broadcast some educational programs. Once through a programme, I listened about the novel ' Divaswapna'. I was excited to read the novel, so I decided to buy the novel. (The educationist (on the radio talk) had focused more on, "if we have to carry progressive philosophy or child centric learning environment, then we must read the novel.")

It could be any day in April 2013; I decided to buy the book. While on the way, I reflected about myself in one year of teaching duration. I taught mathematics at the secondary level, but I was not satisfied with my teaching approach and Nepalese education system because our environment creates such type of background while students are only learning for high marks not for high achievement of knowledge, the environment does not promote progressive education system.

When I reached in the stationery, I asked about the book, when he gave that book he asked about me "are you a teacher?" Then I replied, yes. I am a teacher. He again added some points about this book; it is very useful in our teaching field. At

first, I observed the cover of the book; the photo was of a classroom. But more importantly, one poem caught my mind which was on the back cover of the book.

From this poem, I felt enlightened and reflected on my childhood period, while the society does not provide a chance to self construct knowledge.

According to this book, Girijashankar was born in 1885 A. D. in Gujarat India, he moved to east Africa for searching a new technique. Later when he became a principal in a higher school in Gujarat, he took an education course. When he tried to make capable students in higher level, he could not succeed, so he

Question from the Child

Where I play?

Where I Jump?

Where I sing?

Where I speak?

While I am talking, my mother feels irritated.

While I am playing, my father feels bored.

While I am jumping then people say me to be seat.

While I am singings then people say me to be silent.

Now, you can say,

Where my place? Where I go and what can I do?

(Gijubhai, as cited in Sikshak Mashik, 2068 B.S.)

thought about the implementation of all efforts in the grounded setting, so that he left the responsibilities of higher level teaching and moved into a primary level teacher and published some educational books. His teaching strategies were related with Montessori based approach. He was concerned about child centric learning approach, he advocated about the teaching strategies in that time, the role of the parents, teachers, and school administrative towards students. He has given clear concepts about new teaching strategies and evaluation system; he had learned eastern philosophy of education.

This poem reflects a child's activity where he or she shows his or her behavior but the parents and social members do not like his or her activity, where the child

wants to learn every moment by knowing new things involving himself/herself but the parents and society do not provide such kind of environment.

This novel is completely auto ethnography in method, where the novel reflects the writer's biography in the teaching field. Before eight decades, he tried to focus on progressive education concept in a small village in Gujarat. In his opinion, number is not the measurement unit of evaluation system but the measurement unit is determined by his performance, knowledge implemented, and practical application in the real field. According to Rai (as cited Sikask, 2011) every child has dream and they are curious and talking some things in their minds. So that every parent, teacher should collaborate with their children or students friendly and kindly. We do not control children; where we control our children they feel anxiety about the learning process. I remembered one of the quotation "spare the rod, spoil the child." This quotation is an opposite view with child centric learning approach. In this novel, I got knowledge about when we teach our child surrounding in four walls, always controlling, giving punishment, with setting a disciplined environment, then the students do not get proper and meaningful learning but when we try to build friendly environment then students catch easily and move faster in the learning process. In this novel, the writer has presented the role of his, other teacher staff, students, parents, principal, educationist, school administration, chief committee member, etc. He has presented two different teaching systems - traditional and progressive philosophy. He used practical way, storytelling, demonstration, visual method, etc.

Gijubhai was against rote learning system or parrot learning system, homework and examination system, and overall, he was against the oppressing education system. In this novel, he was only one teacher with different views so that many times he felt difficulty from his staff but in the course of time other staff also

supported his philosophy. In this book, one of the students, son of Mr. Raghav Thakur, was not interested in sociology, history, math and language subject, but his interest was in father's profession in hair cutting. So that the writer says "he is capable for education field but our school is not capable for those students which subject is not in here to train his interest subject."

In my view, people liberate themselves in companionship with each other, where the students self constructed knowledge, there is no existence of pedagogy of the oppressed. According to Freire, when students do more than reproduce the word, it requires them to create their own words and to become aware of reality for their own emancipation. Some students acquire a kind of naïve consciousness but they are aware of their condition but don't make any efforts to change it, this type of students get oppressed. When students construct their own reality, they liberate themselves from oppression then students acquire a new way of thinking, their understanding of the social status changes likewise. To dig out from the oppressed is not necessarily a materialistic understanding, but a cognitive thing. Freire's method implies two distinct moments, the first refers to the consciousness of the reality that the students live as oppressed being subject to the decisions of oppressors and second refers to the initiative of the oppressed to fight and emancipate themselves from the oppressors. When oppressed accept this reality and adapt to it without inquiry or questioning, the situation gets even worse. So that students get to know themselves in order to begin the fight for their inexorable emancipation.

Our education system is also guided by banking concept of education which is an instrument of oppression. Freire (2005) refers to two types of education system, he refers bank concept and problem posing concept. The bank concept carries the dichotomy of educator and educated and problem posing concept focuses on nobody

educates anybody else, nobody educates himself so people educate from each other through their interaction. Our education system is also guided by lecturing and memorization with little analysis in activities to promote for oppressing system. According to Freire, that situation in which the students are the containers into which knowledge can be deposited is the banking approach. In this process, the teacher is known as a depositor and the educational knowledge is deposited on a daily basis. This type of learning concept of education attempts to transform the minds of individuals and be dominated by them with teachers. Many more passive students are diminishing their creativity and increasing the naiveté. This develops for the oppressors. When the students do not fight for the oppressed situation, they have lost their love of life. So, Freire suggested that the individual acquire love of life through cultivation of his being. So, for the liberation we need an education that ceases to be alienating and mechanistic, when we follow problem posing approach then we get the role of the educator as a facilitator. This type of learning helps people create new expectations and reach truly reflective state in which students discover their own reality. It is promoting new challenges that move the students towards self construct.

Freire's view about digging out from oppressive situation necessitates that dialogue be established between teacher and students. The individual learns to do just to understand and transform reality.

According to Dahal (2011), teacher's method of instruction in classroom is important in changing student's attitudes and habits towards mathematics subject. Silwal's (2010) research concludes that mathematics teachers have positive perception towards mathematics and there is so significant difference in perfection towards mathematics in gender wise and faculty wise teacher. Ghimire (2006) asserts that the school management should identify the learning problems faced by students. Students

learning outcomes along with curriculum objectives, text book, content, evaluation, training program should be reviewed critically. In my experience, I found school bullying is also responsible for the anxiety of mathematics. Rana (2006) found that school bullying is experienced, puzzlement, fear feeling, overpowered and controlled environment. School culture is responsible for bullying so that teachers, parents can be encouraged to become empathic listeners and modest implementers through shared school understanding. Learning outcomes can be improved through extra – curricular activities through games, visual method, demonstration, and parents –students sharing sessions. According to Rana (2006), activities would help to promote students fully occupied and also enhance their emotional development, an improvement in interpersonal communication which is the basis of all human interaction. In *Divaswapna*, I also found similar activities like visual way, interaction, collaboration and constructive ways in learning. In my context, I also experienced this event.

It could be any day in December, 2012. I was teaching in class nine, when I entered the classroom, after some minutes some students were also coming into my classroom because of the interval period just before. When I taught mathematics problem assigning group work and sharing each other knowledge, the principal sir observed the classroom. At that moment, the classroom was noisy since students were preparing for group and some students were discussing the problem issues. When the period finished, principal sir called me in his room and asked about the classroom. He informed me when I taught in class nine, it was very noise. He asked, "Why did you not give punishment? Then I replied, I used collaborative teaching approach and I also assigned them group work and to discuss among each other, but I am sorry for that noisy environment, then principal sir replied "Yes, it harms another class. So that I

hope you will consider this matter.” Then I said that day's class made a little bit noise. I would consider about that in the upcoming days.

This event was quite similar to the event in the Divaswapana novel. From this novel, I got the same concept about teaching learning in the 19 the century, where the writer used the student centered learning using collaborative and constructive approach, he created learning environment in favor of students' desire, in that classroom there was no any kind of oppressing situation. The writer also tried collaborative classroom but he also got threatened from his principal but finally he succeeded in his teaching.

Chapter Summary

In this chapter, I tried to link my experience with Fraire's concept and how have I compared both situation teaching and learning, and my enlightening with Diwsawapana book. I tried to bring out my experience in the research phase, also my experience acting as a teacher trainer and having some influence on decreasing oppressing education system. I also tried to examine the situation critically.

CHAPTER VII

FINDINGS OF MY INQUIRY

Chapter Overview

This chapter concludes my inquiry and sets the beginning for new query. In this chapter, I have presented all my inquiries setting from starting phase to my concluding stage. I have tried to present my background to represent my process and product of this project. This mini project has given an image of the teacher's and students' perceptions of each other.

The interesting event was when I prepared my proposal for my master's project, at that time I was at the student's phase. I brought my research questions from students' perspective, *why did teachers not show the same behavior to high and low achiever students?*

While I was doing my research project, I got a job as a mathematics tutor in the secondary level. Therefore, I also tried to reflect my role as a teacher in different classrooms. In this project, while writing the proposal, I had only the experiences of being a student in different levels, from school level, to college level, to the university level. I thought at that time, teachers are responsible for creating undemocratic environment and they promote bias between high and low achiever students. In this phase, I tried to present my experiences as a student in chapter one and four, chapter one focused on background of my inquiry setting. In that chapter, more focus was on my experience and feeling as a student. My argument was in favor of students. So, I tried to share my argument as a role of a student. At that time, I felt teacher's behavior was different according to student's status.

But in the course of time, while I got the experiences of teaching, my feelings have radically changed. After engaging for about three months as a secondary mathematics teacher, I had grasped some understanding about the educational sector. I knew that the real situation is different from the thinking phase or dreaming situation. Therefore, I tried to follow my new learning approach in the classroom, but I could not get complete success in the approach. Every day I had some problems in teaching. Sometimes, I showed angry behavior towards my students because of continuous six periods of teaching. Sometimes students' behavior made me irritated, so that my role differed according to situations. Sometimes I felt mathematics was a hard subject because in my childhood period I was feeling mathematics as a hard subject while my students also took mathematics as a difficult subject so that sometimes I took mathematics as an abstract, useless and boring subject. Moreover, while I was passing out the students' phase, mathematics always gave me troubles; similarly, while teaching also, students did not understand properly and they tried to follow rote memorization but I was always against rote memorization concept.

I have presented the data in the multiple genres of writing like vignettes, dialogue, and poem. So, my research project was guided by my multiple paradigms such as interpretive, criticalism, and postmodernism. Critical paradigm allowed me to point out dialogical and dialectical thinking and critique between our teaching and learning paradigm. Critical reflection became a key element of my project (Luitel, 2009b). Auto ethnography as my method of inquiry allowed me to explore my lived experiences; I could construct my data through narrative and imagination. I have used constructivism, collaborative approach, bullying, and pedagogy of the oppressed as key theories to guide my research work. Auto ethnography offered me to guide my work from the beginning to the concluding phase and constructed my pedagogical

practice exploring real meaning of my lived experiences. I have presented dialectic, narrative and metaphorical logic to enhance my reflection. The critical paradigm helped me to find my research problem to critically reflect upon my teaching and learning experiences. According to Kincheloe (2008), critical pedagogy claims that nothing is impossible. Freire (1970) claims the love is the basis of an education where it helps to keep justice, equality and genius. According to Joe (2008), the transformative teachers would see their goals as cultivating a love for maths in their lives, finding more uses for math in their lives, finding application for math that helps to know about the subject matter. Both researchers supported democratic learning environment, whereas Dewey supports progressive education where the subject teacher should build subject lessons around the life experiences of learners. Student centered learning activities help to promote and develop attention of the students and respect for students' culture and develop understanding and belief on the student's domain.

I examined my real life experiences as a student, practicing teacher, teacher trainer and novice researcher. In my dissertation writing, I excavated and reflected critically on my past experiences and beliefs towards oppressing situation and teaching learning pedagogy. I narrated my teaching experiences and my more recent experiences as a teacher trainer and master's student. As my writing evolved I came to understand that relationship between teacher and students, active and passive students' behavior plays a vital role in promoting an oppressing situation in the classroom.

I have used quality standards of critical reflectivity, verisimilitude and pedagogical thoughtfulness to measure the quality standards of my project. In this research, I have tried to present critical reflexivity and it reflected my own belief and

practice in my inquiry. I tried to present my narrative inquiry as a realistic and true story, where readers can find the realistic way in my story, it reflects to their own context and it seems real and sounds (Luitel, 2009a). The quality standards refer to an important inquiry for the readers. Engaging and collaborative methods are focused on learner's awareness and their own understanding and learning process.

Spray (2001) says that auto ethnography methodology subscribes to the view that reality is constructed through the researcher's experience. Denzin and Lincoln (2005) claim that auto ethnography is changeable moment between story and research issues, writer and readers, it creates interesting event of self reflection (as cited in Sharma, 2012). Freire encourages teachers to engage students so that they are able to apply their learning.

I have illuminated my perception about the nature of mathematics, teaching pedagogies, relationship between students and teacher, perception between teacher and students towards each other. When I continued this project, I tried to present myself as a student, as a teacher, as a teacher educator and as a researcher. I reflected my own experiences that I have achieved as a student and as a mathematics teacher in the secondary level and as a teacher educator. At this time, I am surprised because my experiences helped me to create new knowledge, and to complete my project. Then I feel my every step activity provided new knowledge (Belbase, 2010). I used postmodernism approach which is through the use of poetic, metaphorical, narrative logic to present my data sources through my educative journey (as cited Gautam, 2011). I think this research helps me develop a new concept from my reflective practice. I have used my dialectic logic to reconsider my two constructing views: absolutist and fallibility mathematics. I had a chance to re-analyzing, re-collect, and

re- present and critique my own past experience. I presented my experiences as poem, dialogue and stories.

The major finding of this study is that my belief and personal philosophy has been changing towards education system. In my childhood period, I always used to think teacher as superior, as the source of knowledge, and book is only one teaching learning source, and teachers were biased to low achiever students. This project has helped me to create a new view to go ahead in my personal philosophy (Belbase, 2006). In this duration of my research project, it helped to change my ontology, epistemology, methodology, pedagogical practices (Sharma, 2013).

Ontology

In my view, when I was a student, I thought mathematics as a hard subject, it was absolutist, and mathematics symbols, formula, and all were fixed. In the course of time, I felt it is changeable according to time, it is fallibility, we made mathematics subject hard because we take it as different from other subjects, and it is the creation from social- culture practice (Sharma, 2013). On the other hand, critical pedagogy advocates pedagogical theories and practice that encourage both teacher and students to develop an understanding of the interconnecting relationship among ideology, power and culture of knowledge, rejecting and claiming to universal foundation for truth and culture (Leistyna & Woodrum, 1996).

Epistemology

My epistemological belief was grounded on my personal experiences, belief and practice. Knowledge is generated from our practice, experience and active participation in the process. When we have active participation then students do not get chance to be oppressed from their tutor and other friends. Knowledge is constructed through collaborative and active participation. According to Luitel

(2009a), mathematics has a multidimensional nature. In the conclusion phase, I have emphasized problem posing education instead of banking concept of education. In problem posing education, dialogical educator creates pedagogical space for epistemological curiosity where teacher and students become trainees in the firmness of exploration (Freire & Macedo, 1996).

Pedagogy

In my childhood, I thought teachers and books as the only sources of mathematics concept and problems. In the past, chalk, duster, blackboard and books were the only teaching materials (Sharma, 2013). In student life, I used to think that lecturing method was the one and only way of teaching; further I used to rote learn the processes but nowadays in my teaching moment, I give more emphasis on the constructivist approach, where we think it is not a one –size fits all pedagogy but rather a humanizing pedagogy where the values of students and teacher background knowledge, culture and lived experiences are immense (Bartolomer, 1996).

Conclusion

I presented my feelings acting as a student in different levels, acting as a teacher, a teacher trainer and acting as a researcher. In this phase, I am going in a progressive way. In my feelings, as a student, mathematics is a fixed subject, it is discovered by some intelligent persons; but when I am a teacher I think mathematics as a fallibility view. For Ernest (2005), mathematics is an incomplete and everlasting process. In this way, I was transformative (Habermas, 1972). According to Platonism (Hersh, 1997), mathematics knowledge is objective. I think educator and students do not know that this system of education is not just ineffective but it is harmful for future. Paula Freire talks about the banking concept of education. He explained that students in this system are “holder ’that are to be filled with the subject content of the

teacher recitation. In the banking concept, the teacher is the authority and the students the oppressed. It can be removed only when students and teachers become partners in critical thinking. According to Abdul Kalam, the prime learning environment is five to seventeen years of age so that in this period we give appropriate knowledge in a peaceful environment. Ancient Greek teachers had also said about the condition with this sentence “Give me a child for seven years, afterwards, let god or devil take the child they cannot change the child.” This sentence refers to the power of the teacher.

According to Nordin (2003), mathematics subject was one of the interesting and important subjects to learn but it was difficult one to learn. That may be determined by psychological incidence such as anxiety, continued existence, determination and associated factors. His research has found that students have ruined into language problems as well as contents’ problems and to rise above the problems, students need help and guidance from the teacher’s side. His research concluded that who has good performance in English gets good marks in maths. The finding exposed that English language is one of several factors that has a say to the respondents’ performance of mathematics. Ravi (2005) says “treat the students the way you would want to be treated” (p. 30) so that my view is also transformed from oppressing situation, where learners first construct knowledge in their interaction with people and active context (Vygotsky, 1986).

When I was writing the proposal of my research work, at that time, I had only the experience of being a student at different levels. During that time, I thought I was oppressed by the teachers and then when writing this dissertation I get involved in the teaching field and got the experience of teaching. Now the observation and experience helped me produce the data and critically analyze them. When I started teaching, I found my behavior was also like that of my teacher, where I also

oppressed my students due to their little or no interest in the study. And I thought it is a cyclic process of education. But when I came to the researching phase, I observed the practice critically, and came to know that it was guided by the pedagogy of the oppressed. So, the educator and teacher must focus on children's interest, they should know children's intelligent, they should play different roles at different times.

So, teachers can teach students at the students' level of understanding.

Moreover, the relationship between students and teachers should be close so that students do not feel any kind of discrimination from their tutor.

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