

Chapter I

INTRODUCTION

Background of Study

Mathematics is essential part of school and college level. So it is kept at compulsory subject at level of the school curriculum and major subject at higher level. Most of the students feel mathematics as difficult subject and majority of the students fail in mathematics. By this problem the great of time, money effort and manpower of the nation has been wasted. So the educationists as well as the state are facing the challenge with problem of academic failure in mathematics. Also the mathematics students are more affected by than other subject students. If seem that mathematics students enrolling is affected by various factors like home and college environment, physical facilities, attitudes toward the subject, peer groups, teaching learning process etc., we cannot achieve the expected goal without improving appropriately on management of above mentioned factors to facilitate the students enrolling and learning.

Mathematics is the important subject to solve the daily life needs. Mathematics play and important role in the organization and maintained of our structures. We use mathematics activities directly or indirectly to solve our daily life problem. Mathematics is the logical study of shape, arrangement, quantity and many related concepts. It helps to people to understand and to interpret every important quantitative aspects of mathematical and natural phenomena. Mathematics provides a set of describing, analyzing and predicting the behaviors of system of many kind conversing different aspect of the world. It is useful in accounting, surveying, engineering, physical science, biology, economics, business and many factors of everyday life. (Gowers, 2002)

Mathematics like a language it the basic toll of communication. It is essential for everyday life as well as for higher study in the field of science and technology. In general mathematics learning helps the people to understand and interpret the every important quantitative aspect of living and natural phenomena. Realizing the fact of prime necessity of mathematics for human beings, its teaching for formal education is prevalent through the world.

Similarly, TU board is one of the pioneer and much responsible education of Nepal. Especially for the students of bachelor and higher levels. The board has prime objectives to link education of higher secondary level and high level studies with very qualitative and competitive education. About many students from across country have been receiving the knowledge and education yearly from several of faculties like faculty of law, humanities, management and faculty of education. Due to its high competency and success but the point to note here in this TU board the number of students to study mathematics are relatively low despite the many important of mathematics education. Hence one of the purpose of this research study is to find out the factors affecting students' low enrollment in major mathematics at bachelor level.

Fig, I: student enrollment in Deukhuri Multiple Campus

year	Total enrolled in Bed 1 year	No. of students in mathematics	No. of boys	No. of girls	Enrollment rate in Mathematics (%)
066	143	14	13	1	9.79
067	187	12	12	-	6.41
068	260	13	9	4	5
069	281	19	13	6	6.76
070	123	8	7	1	6.50
071	111	6	4	2	5.40
072	122	6	2	4	4.91
073	118	4	4	-	3.38

Statement of Problem

Mathematics is one of the major disciplines that paves the way to technical career and instructional field as well. It is a way of logical thinking. So, nowadays mathematics is major parts of our life. Every college has included mathematics subject. Deukhuri multiple campus is one of the Bachelor and Master level college in Lamahi for certain subject at that college. It is observed that the number of students was low enroll in mathematics than other subject. So this study has concerned to find out the factors affecting student enrollment in mathematics at bachelor level. The researcher is interested to find out the answer of the following research question

- Why the students are less enrolled in mathematics comparing to other subject?
- What are the major factors of the low enrollment in mathematics?
- How does the way forward to increases the enrollment of students?

Objective of the Study

This study is proceeded to investigate

- To find out the main factors affecting students low enrollment in mathematics at bachelor level.
- To dig out the possible way to enhance the enrollment of students in mathematics.

Significance of the Study

Every research is important in itself because it gives details of various unseen facts in any area of study. Nowadays, the popularity of mathematics subject is decreasing. So it is necessary to find the reason. In this study the researcher is attempts to seek the answer of the question that mentioned in research question. This study helps to inform

about the existing status of mathematics education, reason for less number of students in higher level and less number of enrollment of students in the mathematics subject. Thus the study is significant for:

- It provides important information about the factors affecting student's enrollments in mathematics subject.
- It helps to draw parents and the teacher's attention on the factors to be considered on low enrollment of student in mathematics.
- It helps good parenting favor for students in mathematics.
- This study however has not covered a wider scope but has added a bit of knowledge of the factors influencing students in taking math subject.

Delimitation of the Study

The study has following delimitation:

- Only Deukhuri multiple campus is the area for the study.
- Only bachelor level students related to math and non- mathematics are based on the study.
- It is descriptive as well as qualitative in nature.

Definition of the terms

- **Enrollment:** Student enrollment at bachelor first year.
- **Factors:** The terms factor is defined as one of the several things that causes or influence some things; e.g. educational, social, economic etc.
- **Home environment:** The environment where all the requirement of students study room, study time, interest, and attitude are found.

- **Physical facilities:** The facilities of college such as rooms, land area, practical room, laboratory etc.
- **Assessment system:** The activities are conducted by the bachelor level college to make decision about the students study.
- **Students:** it is related with the students refers to with and without mathematics subjects' students.
- **Out of content but contextual factor:** It is associated with family background, self- confidence, influence of society, parents' attitudes, interest, occupational goal etc.
- **Teacher Efficiency:** In this study, teacher efficiency means who completes masters in mathematics education.
- **Motivation skill:** In this study, motivation skill means that teacher who motivates students in teaching learning activities.
- **Technical skills:** in this study, technical skill means that teacher who uses the ICT in teaching learning.

Chapter II

REVIEW OF RELATED LITERATURE

A review of the literature is an essential part of all studies. It is process of locating, obtaining, reading and evaluating the research the main purpose of review of related literature is to develop some expertise in one's area to see what new contribution can be made and to receive. The researcher has collected some of the similar research there are some studies about, causes of low enrollment of black students in upper- level science course, A Study on factors affecting teaching learning mathematics at secondary level, causes of low participation on of girls of rural community in optional mathematics. The factors affecting the girl student attitude towards selecting optional mathematics at secondary level, the enrollment of girls' students in primary level. A study on factors affecting teacher learning mathematics at secondary level, students' enrollment trend in major mathematics at higher level and causes of low enrollment of students in mathematics education. Some of the studies are as follows.

Bandura's General Social Cognitive Theory

Bandura's general social cognitive theory develop from experimental psychological studies which demonstrate how children learn and imitate modeled behaviors. It is general theory of human behaviors. Bandura (1977) argues that "learning would be exceedingly laborious, not to mention hazardous, if people have to rely solely on the effect of their own action to inform them what to do fortunately, most human behaviors are learned observationally throughly modeling Bandura stressed on the concept of self- efficacy and collective efficacy is incorporated in numerous studies in different concepts. Bandura (1995) define self- efficacy as the belief that people have in

the ability to exercise control over events that affect their lives. Human behaviors are affected by self- efficacy belief through cognitive, motivation, affective and decisional processes. He “reciprocal determination”, believing that an individual’s action and the action of the word. This theory will provide the main theoretical base to conduct the researcher nicely. Under this theory it will be focused on self- efficacy, is the root to promote mathematics anxiety. There may be so many causes on different sectors to loss self-efficacy in order to promote mathematics anxiety.

According the Bandura (1986), self- efficacy is a person’s judgement of their capacity to organize and carry out a course of action required to attain a desired type of performance (pajares and miller, 1995). From the general social cognitive theory (GSCT), a person choice of behavior and how much effort they will expand and for how long they will sustain that effort in spite of obstacles and adverse experiences is governed by one’s perception of self- efficacy (Bandura, 1997). The person will have lower performance (efficacy) expectation if they believe that they are not able to be successful due to personal inadequacies rather than due to particular situation they find themselves (Bandura, 1977).

The student’s learning experiences significantly influences self- efficacy and outcomes expectations (ferry et al, 2000) and ability or aptitude will affects a student academic performance (lent et al,1994). A student performance in mathematics (Barren 1994, lent et al, 1996) will directly affect self-efficacy attitudes and outcome expectancies, grades and indirectly affects course enrollment intensions. The stronger the mathematics self-efficacy, students are more likely to enroll in mathematics and science collage (Ferry et al, 2000). This academic self-efficacy along with motivation and self-

regulation according to Mc Coach and Siegle (2001) appears to be a stronger predictor of academic achievement than does the student attitude toward school or teacher. They go on to say students who have high self-motivation and self-regulation and positive academic self-perception, more likely to be high achieved than the students with the lower academic self-perception, motivation and self- motivation. As the student achieves success in mathematics his/her sense of efficacy will began to rise which in true will lead to increased interest in mathematics, as a result, low enrollment in mathematics will be reduced. (Dulal,2065,p21)

Empirical Review of the Literature

There was no one researches about the topic, “Factors Affecting Student’s Low Enrollment in Mathematics at Bachelor Level” in the context of Nepal. But some related researches have been collected about enrollment and causes of mathematics learning. Some of the researches have been conducted through international and national perspectives. The researcher reviewed some related researches which are as follows

Ghimire (1997), Did a research entitled “A Study on Factors Affecting Teaching Learning Mathematics at Secondary Level” with the objectives to study the factors affecting in learning of mathematics in secondary level in term of social environment, family background, motivational factors, physical facilities, interest of the learners, instructional materials. He concluded that environment of the school in both rural and urban areas affect more to the subject of rural areas and girls are affected more than boys. He also found out that motivation, student’s interest, instructional methodology and materials also affected on the teaching and learning mathematics.

Dhakal (2006), Did a researcher on “The Factors Affecting the Girl Student Attitude towards Selecting Optional Mathematics at Secondary Level”. With the objectives to find the factors effecting the girls students attitude towards selecting optional mathematics at secondary level. Hundred students were selected from Syangja District who had offered the optional mathematics course in secondary level. The study was done in Sangja district. This study concluded that nine variables were teacher’s behavior, prior achievement level, job talking mission in future, plants of further study, parental support, social influencing, peer group influences, self- confidence and girl’s interest come out to be influencing factor the girls to make positive attitude towards mathematics in the context of Nepal.

Subedi (2007), Did a researcher on the topic “The Enrollment of Girls Students in Primary Level.” The main objectives of this study was to identify girls’ student enrollment rate, regularity and loss promotion rate with the involvement of women. This study was done in Rukum district. He used observation, interview and questionnaire review as the researcher tools. This study concluded that the enrollment of girls’ students is more in women teachers’ involvement school than non- involvement of women teacher.

Ghimire (2012), Study on “A Study on Factor Affecting Teaching Learning Mathematics at Secondary Level” with the objective to study the factors affecting learning of school in term of the following; school environment, family background, physical facilities, Internet of learners, for the study were administrate to the sample of students and t-test was applied to conclude the following results. Home environment affects more to the subject of rural area of affected than boys. The students of urban area

were more interested in the study of mathematics and the girls paid more attention for mathematics than that to Arghakhachi and Chitwan.

Joshi (2014), Did researcher on the topic “Students’ Enrollment Trend in Major Mathematics at Higher Level.” The main objective of this study was to identify causes of low enrollment of students in major mathematics at higher secondary level. He used interview schedule, observation note and document review as the research tools. His research found that loss of self- efficacy students, environment, parents and teacher are the main causes the low enrollment of students in major mathematics at higher level.

Chataut (2014), Did a researcher on the topic “Causes of Low Enrollment of Students in Mathematics Education”. The main objectives of this study was to identify the causes of low enrollment in mathematics at higher secondary level and factors affecting students interest toward mathematics. He used observation, interview and field note as the research tools. His research found that the lack of social economic, education, gender gap, traditional society, teacher’s role, student’s role and thinking of mathematics are the main causes of low enrollment of students in mathematics education.

Though various researches have been made regarding the students enrollment in primary, secondary, higher secondary and factors affecting students achievement of mathematics. Enrolling of mathematics is decreasing this problems faced by teacher, students in mathematics, problems related to gender difference, economic status, urban and rural school, materials, caste, culture and so on there is scarcity of research in the field of research on “factors affecting students’ low enrollment in mathematics at higher level.” The researcher faced by bachelor level teachers and students in teaching and learning mathematics. Carrying the same topic and following the same process of data

collection and analysis no researches have been conducted in this area. This research will fill the gap between the theoretical perspective and practices. The researcher aims to find the actual factors which affect the students low enrollment mathematics portion through the students, teachers, parents and administration response, observation and document analysis. So the researcher believes that the topic is suitable for the research related to contemporary issues.

Conceptual framework of the study

The conceptual framework covers the main features like aspects, dimensions, factors, variables of the study and their relationship. Generally it is presented either in narrative or graphical forms which reflects the relation between the variable, clarity and focus to see the organization of the research questions more clearly. From previous research, suggestion of guide and researcher knowledge, belief and experience.

Conceptual framework showing (Fig.2.1) the factors affecting students' enrollment in mathematics.

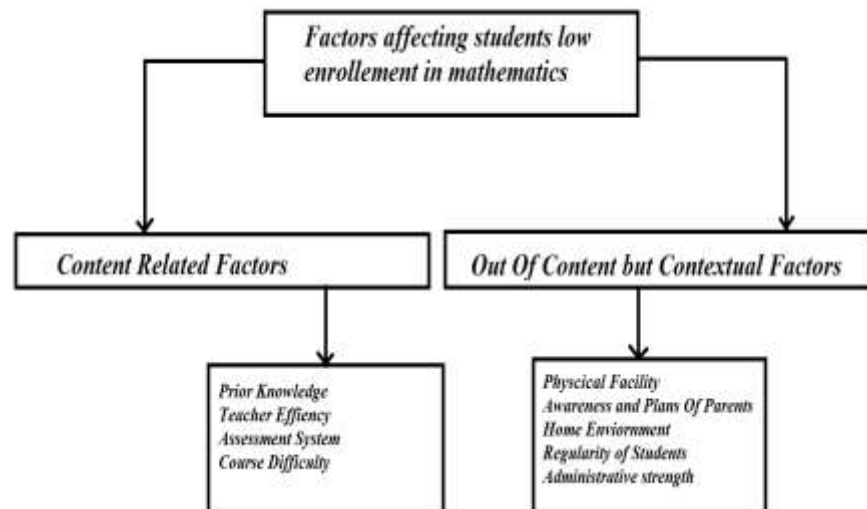


Fig. No: 2.1

Source : Joshi (2014) and Chataut (2014)

Content related factors:

It is the kind of factor for the enrollment of the students. For example content it is the difficult for the normal average achievers. In this research, the content related factors deals with prior knowledge, teacher efficiency and assessment system and course difficulty.

Out of content but contextual factors:

It is another kind of factors that the factors affecting low enrollment in mathematics. In the chosen of mathematics in the college many kinds of environmental factors that affecting the students internally and externally. In this research deals physical facilities, awareness and plan of parents, home environment, regularity of students and administration strength.

The above figure shows that the conceptual framework of this research. The researcher found the main factors affecting student low enrollment in mathematics at bachelor level through observation& interview. Researcher found that the both content related factors and out of content but contextual factors affecting student low enrollment in mathematics.

Chapter III

METHODS AND PROCEDURES

Research Methodology has become the most important part of research. It is an investigation related to the social production of the issues, events or practices by collecting non-standardized data and analyzing texts and images rather than number and statistics. Related to math out course and enrollment in bachelor level. The research emphasize on observation and description of phenomenon, collects and analyzes data using descriptive and analytical tools rather than statistical tools. This study mainly concerns with study of low enrollment of students in bachelor level mathematics stream.

Design of the Study

The design of the study was qualitative in descriptive nature. This study was conducted bachelor level college namely Deukhuri Multiple Campus where enrollment rate of mathematics students have been decreasing year by year. The researcher tried to explore, various types of factors through interview guideline, document analysis and observation form. Researcher design was the conceptual structure, strategy of the logical systematic plan and direction of researcher.

Sample of the Study

The researcher has selected Deukhuri Multiple Campus for the study. Sample of the study were four mathematics students, two non – mathematics students and ten other major subject who shifted from mathematics of three academic session. The researcher also select the campus chief, some parents and subject teachers of the academic session 2072-073 for the required objectives. The main purpose of this study was to find out the factors affecting student's low enrollment in mathematics.

Tools of Data Collection

The main tools used in field to collect primary data was interview guideline and observation form. Observation form were used to students and administration and interview guideline for campus chief, mathematics teachers, students and parents to find out the affecting factors. Researcher studied previous result, physical facilities, resources, students records, teacher's demography were considered as secondary source of data.

Interview Guideline

The interview guideline conducted the data from students, mathematics teacher, campus chief and parents about their experience and problem in related topic. The open-ended question was prepared according to conceptual framework for the fulfillment of objectives, discussing with supervisor and by the help of the other previous researcher study and interview guideline related to this study.

Observation Form

There are many kinds of number of techniques that used to collect information. In these techniques observation is one of them.. Observation form were used to students and administration. The observation form includes main activities of teacher, way of questioning, Area of interest effectiveness, motivation, self-confidence and total educational management. The researcher conducted the observation work on the basis of the form. (See Appendix E)

Document Analysis

Researcher collected college information such as previous result, physical facilities, resources, students records, teachers' demography were considered as secondary source of data.

Data Collection Procedure

The researcher has followed the following procedure to collect the data. At first the researcher made a framework for each tools which determined the nature of data collection and provided him expert and non-expert support for each and every step of data collection. The researcher used observation form and interview guideline with campus chief, mathematics teacher, parents and students for the qualitative data. Also the observation form is taken as the quantitative data (See Appendix E). Involving three point likert scale. Likes Agree (A), Undecided (UD), Disagree (DA).

Data Analysis Procedure

The data analysis and interpretation in the process of systematic searching and arranging the information from the interview guideline, document analysis and observation form. This chapter deals with the analysis and interpretation of the collected information to find out the factors that affecting student low enrollment in mathematics education. It has already been mentioned that there were one set of observation form with likert three scales- agree, undecided and disagree with values 3, 2 and 1 respectively in each statement and sets of interview guidelines. The collected data are tabulated and analyzed for attainment of objectives. Average mean greater than 1.8 was considered for positive statement and average mean less than 1.8 was considered for negative statement.

The collected information obtained from observation form and interview guidelines were based on the conceptual framework emerged from the review of literature. Theoretically it is assumed that variables such as content related factor with prior knowledge, teacher efficiency, assessment system, course difficulty and out of the content but contextual factors with physicals facilities, awareness and plans of parents,

home environment and students' regularity. The data were obtained from the mathematics students who were studying at bachelor level. The collected information analyzed and interpreted by general inductive approaches.

Chapter IV

ANALYSIS AND INTERPRETATION OF DATA

The data were collected from relevant record to the Deukhuri Multiple campus of last eight years. That is result, attendance, students profile and current response of chief, subject teacher, guardians and students. The collected data were tabulated and analyzed according to the objective of the study. Qualitative data were analyzed by descriptive methods and quantitative data are by using statistical tool average mean.

The researcher took interview with campus chief, teacher, students and parents to find the ground reality of students' academic level which could help to find where the problem actually are interview guideline was prepared and interview was taken to the campus chief, subject teachers and parents. It was implemented to find the responsible factors for the low enrollment and possible strategies to address the difficulties. The researcher also observed the physical strengths of selected college as library, math lab, structure of building etc. as far as possible which could effect in math learning. The researcher also had met some parents of bachelor level students and visited the locality to know the homely environment. All the activities were done in the complete guidance, instruction and supervision of expert. The following are the topics related to the factors creating problems in low enrollment that is result, attendance, students profile and current response of chief, subject teacher, parents and students. The collected data were tabulated and analyzed according to the objective of the study. Qualitative data were analyzed by descriptive methods and qualitative data are by using statistical tool average mean.

Observation form was given to the respond and told them to give their opinion in direct supervision of the researcher. Interview guidelines were prepared separately for the

chief, teacher and asked them. To response relating the current trend. Opinion of representative guardians also were gathered by asking questions based on conceptual framework and different themes were made. The collected information were analyzed and interpreted under the following aspects:

Content related factors:

This headline includes the following subtopics:

- Prior knowledge
- Teachers efficiency
- Assessment system
- Course difficulty

Out of the content contextual factors:

- Physical facilities
- Awareness and plan of parents
- Home environment
- Regularity
- Administrative strength

Prior knowledge

Prior knowledge of students is one of the important aspect of student's related factors which means the previous knowledge of the students towards mathematical contents. The basic knowledge of mathematics in lower level is the key factors which determined good performance in the further study. Mathematics pre knowledge is the infrastructure for all round development of students in the mathematics sectors. Those students who do not have sufficient prior knowledge do not want to learn and could not

get success in the further level. So, it is concerned with the outcomes of school and +2 level. Low mathematical achievement of secondary schools and in +2 level determines the enrollment of students in bachelor level. Result sheet, profile of students, response of teacher, interest of students and plan of parents are noticed and analyzed for the entering behavior of the students which was found to be average.

“Sometimes I had problem to learn mathematics in +2 level-mathematics course were not finished in time. Also I don’t know about use of mathematics. So I didn’t continue the math study in bachelor level.”-student shifted other subject

“When teacher started new topics he/ she didn’t relate with previous concept regarding new topic. So we became confused to gain new knowledge.”-regular students

The above views of student’s emphasized students have not sufficient previously learned mathematics knowledge. The students cannot assimilate or relating new mathematical concept and principal to previously learned mathematical structure.

“My child gives less time at home in the study and achieves poor result, also wants to shift the subject. We also want our child being employed for economic support and professional carrier.”- shifted student parents

“The solution of numerical problem is called mathematics. My child always fail in mathematics in lower secondary and secondary level. So I didn’t recognize to choose major mathematics.”- Non-mathematics student Parents

The above state voice and representative voice of other parents the researcher concluded that the poor bases of mathematics and poor understanding of mathematics directly affected the students’ enrollment.

“Outcomes of the students in +2 level is not even satisfactory. They hardly get 50-60% content knowledge in +2 level and admit here.”-Teacher.

The above mentioned responses of the students, guardians and teachers were indicate that prior knowledge of mathematics is important for the betterment of student's enrollment in mathematics. It supports for the conclusion that the poor prior knowledge of the students is reason for poor result and it is reason for low enrollment.

Teacher's efficiency:

Teacher efficiency is the one of the factors that affect the student's enrollment in mathematics educational at higher level. it means who completes master in education, refreshment and new comers teacher training, motivation skill, technical skill, college teacher, teacher student's relation are taken as the aspects related to teacher's efficacy. The response of campus chief, teacher response on interview guideline and recorded documents related to teacher are found better and mostly satisfied. So the researcher concluded that the efficacy of teacher is playing positive role in student enrollment. But stability of teacher, refreshment and new comers teacher training, Incentives and model collage visit and consult with college of different college are not satisfactory which gradually effects in students enrollment.

During these 3 sessions we faced four different teachers. All fresh and un experienced. Teacher's labor hard but they region within one season. It has become one of the teacher training center. One child is in third year bachelor of education with math major subject. Some sample voice found under research related with this topic as follows:

“We had faced two different teacher in B.Ed. first year calculus. Being familiar with the teacher we were surprised to hear the news that the teacher is coming and new teacher will come next day”. – Regular Student

“Our teacher does not use teaching materials in course of teaching which makes us difficult to understand and not clear concept about the topics.”- Regular student

The researcher concluded that the above views of students. The skillful teacher used the teaching material and made the class interesting and enjoy fully but students did not get here. Students faced different teacher in three academic session and also students felt that mathematics is only numerical solution, students' did not clear concept about the mathematics topic.

“Our College did not any program organize to increases teacher's efficiency like seminar, conference and training, even internet access does not available in our campus.”- Mathematics teacher

“We can't stop anyone for our selfness. One gets better opportunity definitely goes. But our effort always remains to select better for the betterment”. – Chief

The teacher efficiency means to teach understanding students psychology. Parents send their children to campus thinking of quality education they can achieve. A question may arise I this case who to consider a good teacher? And the simple answer is one who can give appropriate knowledge about a topic which can be practically useful for him/her in future. But in this case the qualification and experience of teacher can't be blamed. What the researcher have found during observation is that the efficiency of teacher as determined by the factor like motivational skill, technical skill, teacher student's relation,

lesson plan, use of educational material and student centered learning methodology which were clearly found lacking in here. With the above facts the researcher concluded that though the efficiency of teacher is good reason behind low enrollment is lack of performance and stability of the teacher.

Assessment System

Assessment system is also an important aspect which effects on students' enrollment in mathematics. Education assessment is the process measurable terms, knowledge skills, attitude and beliefs. Assessment system measures the student achievement. Effective and continuous assessment system helps for good achievement and enforces for good enrollment. This portion is related to the evaluation system increases the learning capacity of students. Without continuous assessment system could not find out fault and weakness of students. So improvement of fault and weakness is impossible never and students are weak in mathematics day by day. The regular assessment is important for the good achievement of the students. Therefore daily assessment is necessary in mathematics learning process. Also it is responsible for student's enrollment in mathematics. From the response of teacher and students researcher found that the collage conducts only final exam scheduled by T.U.

“Collage do not conduct regular internal exam. We have to face final exam directly. Political, Economic and other various reasons plan the role for irresponsible administration.”- Students

“I was interested to do study of mathematics because I felt that hard to solve the mathematics problems regularly”- Students

The above views of students' college did not conduct the internal exam. Students face the directly final exam and non-mathematics students not interested to study mathematics.

"We are unable to conduct internal examination timely and regularly. Various aspects enforce to complete the course first. If examinations are conducted then we can't finished the course in time." –teachers

"In our college there are limited teachers, they have to teach part time. They have no extra time to check assessment in college which affect in students' achievement consequently, number of students were decreasing in mathematics." - Campus chief

Above view of teacher, students and acceptance of campus chief are not doing assessment regularly. Students are busy in their household work and job instead of the study time. Daily assessment checking is not possible by teachers individually due to engage part time in teaching. That's why students' achievement in mathematics becomes low. Regarding this matter helped the researcher to derive that problems related to assessment system also are responsible for the low enrollment of students in bachelor level.

Course difficulty

Course difficult is one of the vital part that effects on the students enrollment in higher level. In bachelor level content related to mathematics are very abstract and difficult. Also they are to be generalized and imagining for the understanding: most of the questions cannot be solved by concrete materials. They are to be assumed and proved.

On the other hand their uses are also very less in our behavior life. All their reason make the enrollment very less in higher level.

“Previously the sequence of difficulty level was not proper from +2 to bachelor level, so most of the students used to get frosted in bachelor level. So the enrollment has become low. Now the syllabus of +2 and bachelor is made in good sequence. So from this session we may not have likewise problem.”-subject teacher

“While I took part in bachelor class and I got the content very different and difficult. Also I could understand no more in 10 days so I shifted my stream.”

-shifted student B.Ed. 2nd level.

The above view of teacher and shifted student helps the researcher to be conform that whose difficulty is also the major aspect to hamper in better enrollment in bachelor level.

Physical Facility

Physical facility plays vital role in any institution, the researcher therefore submitted the availability and use of physical and instructional material. The researcher observed building, number of rooms, grand, rest rooms, water tap, location and furniture and also there management. Net facility, computer availability and its use etc. also were the past of physical materials observed by the researcher.

The researcher also submitted some set of questions for student’ and collected their view accepting that students are the real users and viewers from near.

1	Physical facilities	(A)	(UD)	(DA)	Average mean
	1.1. Arrangement of classroom	4	8	4	2
	1.2. The light and Ventilation	4	10	2	2.12

	1.3. Cleanliness	5	10	1	2.25
	1.4. The availability of furniture	2	8	6	1.8
	1.5. The quality of writing/graph board	3	9	4	1.93
	1.6. Computers as teaching equipment	1	6	9	1.5
	1.7. Mathematics Laboratory	0	5	11	1.31

The above mean weights of statements 1.6, 1.7, 2.3 and 3.2 have the average mean less than 1.8 and hence there were problems in furniture availability, quality of board, computer as equipment, availability of math lab, teacher's readiness, level of motivation and discipline, use of advance and practical materials and evaluation techniques. The low average obtained in the statements 1.6 and 1.7 indicated that there is very less availability and use of projectors computers and other innovative instructional materials in most of the sample schools of this area. Content delivery, class arrangement, light and ventilation in the class and cleanness had better average in comparison to others. In case of homework most of the school gave much more homework. Which is not the excellent job but it is not too bad so it can be considered that there is average quality of homework. In case of content delivery, though there is good mean weightage students were not treated democratically. They were forcefully kept in rule and discipline and compelled to read and acquire the complex geometric concept.

Awareness and plan of parents

Parents plan and awareness determines the future of their child. Occupation of the parents, their economic social status, cultural trend etc. are also the determining factors of the children future. Which also are the aspect that determine enrollment in this level. The researcher found that the progressive migrated to urban area, poor force in income and so

some of the youth plan for foreign employment, some engage in daily teaching local institutions. Some parents of business occupation hope their child to help in their business which directly harms the high enrollment and decreases in quality production even if student continue.

“All the seven students of B.Ed. 1st year math's are engaged in local boarding school as teacher. So they leave last period and also cannot complete home assessment, how can my single effort bring change on them.”-Teacher

“The administration has brought a rule that the students should compulsory attend at least eighty percent class and they should submit their perfect note but we cannot punish them because they have their own problem.” -Administration

On the above condition the researcher found that parent's level and plan had the vital role on student's enrollment in campus. Next, teachers and administration effort only can do no more impact if students are forced for their livelihood.

Home environment:

Home environment is one of the factors that affect student enrollment and achievement. During observation researcher has found the low thinking and educational level of parents. Only the few parents were found guiding their children. In learning who are literate.

Among the sample students, girls student have no more time. They involved in household works. The most parents of sample students were doing labor work in about like Saudi, Qatar. They have not good income source to manage their students separate study room.

It implies that house condition is not good for students. The researcher ask the question. “How much time do you spent studying at home?” The answer form these respondents are given below:

S.N	Study hour	Number of Students	In percent
1	2	2	33.33%
2	2.5	1	16.67%
3	3	2	33.33%
4	4	1	16.67%

The data in the given figures give us information about how many hours the students study at home. We can say that there is less time to study which directly influence enrollment in major mathematics because study time is directly proportional to the result of students.

Girls were given less opportunity for study at home than boys. Which also create the low enrollment in major mathematics.

“I have to look after my siblings also there is not a separate study room. So I can’t manage my time to study.”

-Students

“I have got a separate room to study in my home. So I can regularly study without any disturbance.”

- Students

The above voice of students are representative the certain students have separate study room but not of all students. Who have not separate study room they can't manage their study.

“Most of the parents of the students studying here are illiterate due to which their children also do not give priority to study.” *-Math Teacher*

Definitely home environment has much influence in studies of students. As set by mathematics teacher most parents are illiterate and have a joint family. Due to which they can't create educational environment in their home. So they can't study subjects like mathematics which should be studied regularly. On the other hand, there are students who live in a big size of family in spite of which they have a good reading environment. Hence they also have good class performance.

Regularity of Students:

The attendance record was not maintained by the campus. So it is difficult to say about student's regularity in classroom. But during the observation and interview, boys of that campus were not so absent. They paid more attention to outside campus activities. In contrast girls of that campus were busier in their household work and did not give more attention to their study. Some of the boys of that campus were also busy in their agriculture farm and job. After that the researcher concluded that the regularity of students is also the factor affecting student's low enrollment in major mathematics. Consequently, researcher can say that there was low regularity of girls so there was low enrollments of girls' students.

“We are trying to maintain attendance records in bachelor level for the students so that they don't miss their class as far as possible.” *-Campus Chief*

“Generally students remain absent when they have certain household task and when they have to show homework to teacher.” *-Mathematics Teacher*

“I have responsibility of my household if yours affairs as an eldest son and absents of father in home. So have to leave my classes which hampers my studies.”

“I regularly attend the classes so I understand course content easily.” -Student

“I obtain had to help my father in shop hence I had to absence frequently in class which makes my study poor.” -Students

Here it was found that campus do not used to keep attendance record of students. It was found that some students of management is good. They mostly attained the class and their study is also good. But some of students had to include in household responsibility such hence the left the mathematics faculty because it need regular attendance in class. Hence the researcher can say that those students who have better family educational background and good self-efficacy in mathematics are good and regular at study.

It was indicated that without good attendance record of students, they are not able to their study. This situation directly influence in their final result which is shows by following table.

Years	No of Students appeared in exam	No. of passed students	No. of fail students	Pass %
066	14	-	14	0%
067	12	4	8	33.33%
068	13	2	11	15.38%
069	19	6	13	31.57%
070	8	1	7	12.5%
071	6	0	6	0%
072	6	1	5	16.66%

source: D.M.C. Exam Section

The above given table shows that the result of bachelor first year as the sample of past eight years is in average. There are 14 students appeared in 2066 but the passed percentage is zero, similarly three times passed percentage of this college is zero. Above of the figure students passed rate in examinations were very low.

Administration strength

Researcher noticed teacher's stability, salary payment, trainings, materials' management, teacher evaluation and prepared the questions in interview form to collect the teachers' response, the researcher also talked with principal to find the ground reality of the problems related to administration.

Table 4.4 Responses of Questions Related to Administration

SN	Statements	Responses			Average Mean
		SA	A	D	
1.	Refreshment training is given regularly	0	2	3	1.4
2.	Instability of math teacher is very high	3	1	1	2.4
3.	Monthly salary is not attractive	3	2	0	2.6
4.	Administration is less responsible to manage instructional materials	2	3	0	2.4
5.	Weekly teaching period of a teacher is not adequate	0	1	4	1.2
6.	There are no incentives to motivate the teachers to put in their best	3	1	1	2.4
7.	There are inadequate math teachers in terms of number and quality	1	3	1	2.0

The low average of statements 1 and 5 i.e., 1.4 and 1.2 represent that there is very poor condition of teachers' regular motivational training. The average of statements 2, 3, 4, 6 and 7 are 2.4, 2.6, 2.4, 2.4 and 2.0 respectively. They strongly support to write that monthly salary, incentives and other economic supports given to the teachers is very less which cannot motivate teachers to provide their best and serve longer in such institution therefore teachers' instability also was found high in such institution.

“We are comparatively not sound in case of economy. Number of students are regarding, we have less permanent teachers government add also is very less to us. Even though we have run it as our capacity meets.”- Campus Chief

“Administration do not encourage to the students and teachers by awarding and providing motivation.”- Teacher

The also from the voice of teacher and campus chief it is assured that the administrative is also one of the logical reason behind low enrollment.

CHAPTER –V

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter concerns with the summary, finding, conclusion and recommendations. After analysis and interpretation of the data, an attainment has been made to summarize short list the summary, finding, conclusion and recommendation for the further study on the same problem and related topics.

Summary of the Study

This is the case study of the students did not enroll in major mathematics in higher level. The purpose of the study was to find out the factors affecting students' low enrollment in major mathematics. The design of the study was qualitative as well as descriptive in nature. The major tools used for this study were interview guideline and observation form. Also the researcher took data from college document and different statistics to make reliable during research. The respondent of the study were students who did not enroll in major mathematics, mathematics teacher, campus chief and parents of selected college of Deukhuri Multiple of academic year of 2072/073. The interview conducted with the 16 students, two mathematics teachers, campus chief and parents for the finding factors affecting student's enrollment in mathematics at higher level.

The researcher started the data collection from 8 August 2016 to 22 October 2016 by using different interview guideline. The collect data were analyzed and interpreted in the descriptive way on the basis of framework of conceptual understanding. In this study, the researcher has analyzed and interpreted the data on the following heading; prior knowledge, Teachers efficiency, Assessment system, course difficulty, Physical facilities,

Awareness and plan of parents, home environment, regularity and Administrative strength.

After analysis and interpretation of different data the researcher found that mathematically weak students did not enroll in major mathematics. The main factors affecting student's low enrollment in major mathematics are lack of counseling and motivation, lack of family support and education, home environment, prior knowledge, assessment system. Also those who have negative feeling of major mathematics, they did not enroll in major mathematics.

Finding of the Study

The purpose of the study was to find out the factors affecting student's low enrollment in major mathematics in bachelor level. The researcher had analyzed and interpreted on the following headings. Prior knowledge of students, teacher efficiency, assessment system, course difficulty, physical facilities, awareness and plans of parents, home environment, regularity and problem related to administration. On the basis of analysis and interpretation of the data, the major finding of the study are as follows:

- Lack of interest and positive feeling towards mathematics, it made difficult to choose mathematics as major subject.
- Lack of prior knowledge of the student creates problem for understanding hence they are demotivated to select major mathematics as major.
- Due to low students attendance and proper home environment are the problem in enrollment of mathematics.

- Lack of parents' interest, awareness and plans affected their children to select mathematics.
- The students who did not able to attend extra class, they did not want to choose major mathematics.
- Due to low economic condition of students, they have to engage their household work to fulfill their daily needs. So students did not interest to choose major mathematics.
- The students who did not get support and inspiration from their parents, students' result is bitter too.
- Lack of motivation and counseling creates misunderstanding to major mathematics, which makes mathematics is difficult than the other elective subjects.
- Refreshment band new comers teacher training related to conten6t by exports were not managing at college.

Conclusion

The researcher concluded that low student enrollment in major mathematics did not responsible only one factors. Mathematically weak students do not enroll in major mathematics. Students' interest and positive feeling of mathematic increase the enrollment in major mathematics. Negative explanation about mathematics from the teachers' side, parents and other person created frustration and anxiety in mathematics. Student's enrollment in major mathematics depends on student's labor in learning mathematics. Lack of parents' awareness, interest of the subject matters affects their children to select other major subject.

The students who is weak in mathematics and do not able to attend extra class, they might not get better achievement in major mathematics. Family economic and educational conditions of students play a vital role to choose major mathematics. Similarly students cannot get support and inspiration from their parents, their result is bitter too. Lack of regular assessment system achievement in mathematics is getting low and students cannot select major mathematics. Those students who have good learning achievement of mathematics.

Suggestion and Recommendation

This is the case study of factors affecting students of low enrollment in major mathematics in bachelor level. In this research, the researcher found that many factors had responsible for low enrollment in major mathematics. There is not only one and fixed factors that affects enrollment. This researcher itself is not a complete. To improve of these problems have to apply the following suggestion and recommendation. From the above finding and conclusion the researcher would like to suggest some recommendation for the improvement of low enrolment in major mathematics are pointed out as follows:

- The mathematics teachers should be linkage between new mathematical concepts and previously learned mathematical structure.
- Teacher should be teaching according to the child psychology and apply different methods in different contents.
- Stakeholders should be counseling and motivate to students for making positive attitude towards major mathematics for increasing confident of students.

- Students should be given more time for doing homework rather than household work.
- College should be managed sufficient qualified teacher.
- College administration should be applied continuous assessment system.
- The parents should be support to children for their educations.

The findings and conclusion drawn from the study cannot be generalized in all college in order to get good enrollment. Because of this study was limited only one college. The following are some of the issues not answered and needed to be further studied to validate the results of the study further.

- The other researcher can be done for overall college.
- A similar study could be done by survey type.
- Study can be done on other major subjects.

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Appendix-A

Interview Guidelines for Asst. Campus Chief

Campus Name & location

.....

Types of campus: a) Government () b) Private ()

Name.....

Religion.....

Teaching subject.....

Teaching Experience.....

Experience as Asst. Campus Chief.....

Open ended questions for interview:

Content related question

Teacher efficiency

- Does the college any program organized like seminar, conference and training to mathematics teacher to increase teacher efficiency?
- Are you satisfied with their teaching activities?

Assessment system

- What plans conduct the college for the continue assessment?
- How many times college took internal examination?

Curriculum difficult

- Mathematics is really difficult subject?

Out of content but contextual related question

Physical facilities

- Is the physical infrastructure utilize by college or not? If yes then how?
- Is physical facility of college promoting students to study? If yes then how?

Home environment

- Are students visiting teachers' outside the college?

Regularity

- Do your staffs attend in time?
- Is college has records of students regularity? If yes then how?

Administrative strength

- What do you aspect more from school administration to make mathematics effective?
- Is college having the sufficient number of mathematics teacher for students?
- What is the college policy to enrollment in major mathematics?

- Does the college any program organized like seminar, conference and training to mathematics teacher to increase teacher efficiency?
- Did you consult with the guardians after exam?
- Are you satisfied in your job?

Assessment system

- Do you took internal exam and feedback to students regularly?
- How many times a year internal exam are taken to students?

Curriculum difficult

- Mathematics is really difficult subject?
- Does mathematic lab helps to students to learn mathematics? If yes How?

Out of content but contextual related question

Physical facilities

- What are the physical facilities at college?
- Does the mathematics lab helped to students to learn? If yes how?

Awareness and plan of parents

- What are the major factors that affect students low enrolling?

Regularity

- What portion of students in classroom ignores mathematics learning?

- Poor foundation of students in lower level possess problem in learning mathematics?
- Does teacher give pre concept, understanding before mathematics new topics?

Teacher efficiency

- What problem faced on teaching and how does your teacher familiar with you?
- Your teacher used the teaching materials in mathematics class?

Assessment system

- Does your college conduct the regular internal exam and what were the reason irresponsible administration for plan?
- How many times college took internal examination?

Curriculum difficult

- Why you did not study mathematics?
- Mathematics is really difficult subject?

Out of content but contextual related question

Physical facilities

- What are the physical facilities at college?

Awareness and plan of parents

- How does your parents support your mathematics study?

Home environment

- Does your family provide you to learning opportunity?
- Why you shifted another subject from mathematics?

Regularity

- Why you choose mathematics subject?
- Did you take your class regularly?

Administrative strength

- What do you want from the college?
- Are you satisfied to your college environment?

Appendix-D

Interview guidelines for Parents

Name.....

Address: a) Permanent.....

 b) Temporary.....

Age..... Gender..... Caste/Ethnicity

Qualification.....

Occupation.....

Name of his/her child (student)

Date.....

Time.....

Open ended questions for interview:

Content related question

Curriculum difficult

- Why you did not recognize your child to continue the study? If your child continue mathematics they cannot got professional carrier?
- What do you mean by mathematics? Did you recognizes your child to choose major mathematics?

Out of content but contextual related question

Awareness and plan of parents

- How does you support to your child to study?
- How much your monthly income?
- What is the awareness of your child?
- Why you teach mathematics to your child?

Home environment

- How many children do you have?
- How does you provide learning opportunities to your child?

Administrative strength

- What is your expectation from the college?
- Are you satisfied with their teaching activities?

Appendix-E

Observation sheet to the students and administration on factors responsible for the difficulty and suggestion measures in the student's low enrollment in mathematics

Response of Question Related to Administrations

SN	Statements	Responses			Average Mean
		(A)	(UD)	(DA)	
1.	Refreshment training is given regularly				
2.	Instability of math teacher is very high				
3.	Monthly salary is not attractive				
4.	Administration is less responsible to manage instructional materials				
5.	Weekly teaching period of a teacher is not adequate				
6.	There are no incentives to motivate the teachers to put in their best				
7.	There are inadequate math teachers in terms of number and quality				

Response of Question Related to Students

	Physical facilities	(A)	(UD)	(DA)	Average mean
1	Arrangement of classroom				
2	The light and Ventilation				
3	Cleanliness				
4	The availability of furniture				
5	The quality of writing/graph board				
6	Computers as teaching equipment				
7	Mathematics Laboratory				