PROMOTING CONTINUOUS ASSESSMENT SYSTEM IN THE MATHEMATICS CLASSROOM

A

THESIS

BY

LOKESH THAPA

FOR THE PARTIAL FULFILMENT OF THE REQUIREMENTS FORTHEMASTER OF MATHEMATICS EDUCATION

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त्रिभुवन विश्वविद्यालय
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गणित शिक्षा विभाग
विश्वविद्यालय क्याम्पस
कीर्तिपुर, काठमाडौं, नेपाल
UNIVERSITY CAMPUS
KIRTIPUR, KATHMANDU, NEPAL
TRIBHUVAN UNIVERSITY
CENTRAL DEPARTMENT OF EDUCATION
DEPARTMENT OF MATHEMATICS EDUCATION

पत्र संख्या: मिति: .....
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LETER OF CERTIFICATE

This is to certify that Mr. **Lokesh Thapa**, a study of academic year 2077/78 campus Roll No. **378**, T.U. registration No.**9-2-552-36-2014**, Thesis No. **1595** and Exam Roll No. **7428282** has completed his thesis under supervision of Asst. Prof. Krishna Prasad Bhatt during the period prescribed by the rules and regulation of Tribhuvan University, Nepal. The thesis entitled **"Promoting Continuous Assessment System in Mathematics Classroom"** has been prepared based on the result of his investigation conducted during the period of 2025 under the Department of Mathematics Education, University campus, Kirtipur, Kathmandu. I recommend and forward that his thesis be submitted for the evaluation to award the Degree of master of Education.

Date:

……..

Prof. Dr. Bed Raj Acharya

Head

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LETTER OF APPROVAL

Thesis Submitted

By

Lokesh Thapa

Entitled

This thesis entitled "**Promoting Continuous Assessment System in Mathematics Classroom**" submitted by **Lokesh Thapa** in Partial Fulfillment of the Requirement for the Master's Degree in Education has been approved.

Committee for the viva-voce **Signature**

Prof. Dr. Bed Raj Acharya …….

(Chairman)

Prof. Dr. Indra Kumari Bajracharya …….

(External)

Mr**. Krishna Prashad Bhatt** …….

(Member)

Date:

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RECOMMENDATION FOR ACCEPTANCE

This is to certify that Mr. **Lokesh Thapa**has completed his M. Ed. thesis entitled **"Promoting Continuous Assessment System in the Mathematics Classroom"** under my supervision during the period prescribed the rules and regulations of Tribhuvan University, Kirtipur, Kathmandu, Nepal. I recommend and forward his thesis to the Department of Mathematics Education to organize the final viva-voce.

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Mr. Krishna Prashad Bhatt

(Supervisor)

Date: 2078/04/24

Defense Date:

DEDICATION

This work is affectionately dedicated to my father Mr. Man Bahadur Thapa and mother Mrs. Kamala Devi Thapa, who even in a very difficult situation gave me a great span of their life for what I am now.

DECLARATION

I hereby declare that the work done in thesis entitle “Promoting Continuous Assessment System in Mathematics Classroom” has been submitted to Central Department of mathematics Education, Faculty of Education, Tribhuvan University, is my own created work reported in the form of partial fulfillment of the requirement of Masters of Education Study (M.Ed.) course under the supervision of Mr. Krishna Prasad Bhatt of Central Department of Education, T.U.

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Lokesh Thapa

Date:

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Lokesh Thapa

ABSTRACT

The present research entitled “Promoting Continuous Assessment System in Mathematics Classroom” to explore the challenges and opportunities of continuous assessment system in mathematics education and to uncover the ways to make continuous assessment system student friendly. This study is conducted in Kathmandu district. In order to achieve the objectives, a school Janasewa Higher Secondary School and Central Department of TU were visited to conduct the study. Narrative inquiry approach among qualitative research design method was adopted for this study. The data were collected through interviews. Five mathematics teachers were selected as the purpose of the study intends. The collected data were analyzed and interpreted by different themes based on conceptual framework and generated the different codes according to the response of participants.

The above study concludes that continuous student assessment is used more in the present than in the past. Continuous student assessment, if applied in the classroom, can make a positive difference in a student's learning. At present, despite the need to use continuous student assessment, it has been found that teachers do not use it as it is a hassle to use it.It was understood that proper physical infrastructure, financial condition of the school and time would be required for continuousevaluation. Similarly, the teacher needs the same kind of energy and vigilance. If it can be used, the learning achievement of the students will be better and the shortcomings in the students can be identified in time and necessary advice can be given to improve the learning in mathematics classroom. Also positive guidance can be given.

For the conceptual development of mathematical abstract subjects, the learning is being more effective. But at a time when the world is being attacked by COVID-19, even the schools could not remain untouched by this problem, due to which even the schools are not open continuously. There is a situation that cannot be done but in fact, continuous assessment is very important for students, teachers and parents in the school.

Contents

ABBREVIATIONS

BPEP -Basic Primary Education programme

CAS - Continuous Assessment System

CDC - Curriculum Development Center

MOE - Ministry of Education

NESP- National Education System Plan

TU -Tribhuvan University

Chapter I

Introduction

Background of the Study

Mathematics is directly associated with human life and it is necessary for civilization. It is believed development of mathematics and the development of human civilization go together.

Educationalists, parents, teachers all are trying to explain how a child learns better. Different researches have been conducted in defining the ways of learning. Researcher have clearly stated that a child learns in various ways such as by communicating their learning by participating in activities directly or indirectly is important to test students. Traditional ways of assessment which include standardized tests which focus on written powers of the students. Whereas, Continuous Assessment in classroom in almost all parts of the world is accepted and practice but the use of it in Nepal is not fully adopted. There need to introduce comprehensive and regular evaluation scheme for proper judgments of student learning and quality improvement in Education (The National Education commission Report, 1992).

Assessment of learners is the process of gathering information about how learners are progressing in their learning. It gathers information about what the learners know and can demonstrate as result of their learning process. Assessment practice is linked with teaching learning practices. Not only what is taught, but also what to assess. It is important to understand what the school or education hopes to achieve for its pupil. Spoocer (1983,p.15) forwarding their view expressed, “without this there cannot be harmony between, what is taught and how it is tested.”

Mathematics is like a basic thing in our life. A general man can get something very well without learning how to read and write but he can never pull on without learning how to count and calculate. The knowledge of mathematics is fundamental process and the skill to use them are preliminary requirement of human beings.

Mathematics is fundamental to study for physics, biologyand science, geography, economic, business, and management studies. Another aspect of teaching mathematics can be taken as teaching for enjoyment.

Introduction of Assessment

The literal meaning of the assessment is comes from the Latin word “assidere” which means “to sit beside”. Sitting beside children suggests a close relationship and sharing of experience. Now days the meaning of assessment is not limited as its literal meaning. Assessment is contract to that includes the full range of information teachers gather about their students, instructions and classroom climate. It also includes the full range of method teacher’s use together that information.“An on-going process through which student learning is not only monitored but in which students are involved in making decision about degree to which their performance and their ability. (Atlan, 2002:p.57)

Types of Assessment. Diagnostic assessment: Diagnostic assessment is the process of assessing what students know and are able to demonstrate prior to instruction. This variety of assessment helps to determine stating points and help to teacher program appropriate for individual students. It is appropriately for individual students. It is rarely used in determining the student’s grade.

Formative assessment: It is the process of assessing what students able to do so they progress through the learning and practice opportunities. This type of assessment provides ongoing meaningful feedback to help students improve as the practice /learning.

Summative assessment: It is the process of assessing what students know and able to do at certain points in the learning process. These assessments such as end of unit test and performance are used to determine the student’s grade.

Continuous Assessment. Continuous Assessment System (CAS) is a classroom strategy implemented by teachers to ascertain the knowledge understanding and skill attained by students. Teacher administer assessment in a variety of ways over time to allow them to observe multiple tasks and to collect information about what students know, understand and can do. These assessments are curriculum based task previously taught in class. CAS occurs frequently during the school year. CAS is a part of receiving feedback from teachers based on student’s performance that allows them to focus on topic they have not yet mastered. Teacher knows which students need review and remediation to move on to more complex work. Thus, the result of the assessment helps to ensure that all students make learning progress throughout the school cycle by increasing their achievement.

Assessment is either internal or external. Internal assessment refers to school based assessment, which includes class assignments, teacher-made test, recap exercise, projects, field studies and all these tools form parts of the classroom continuous assessment strategies. A continuous assessment strategy refers to the different tools / producer used in the classroom to understand the academic achievement levels of assessment that seems to attain. It is a pattern of assessment that seems to attain certain outcomes and to guard against others.

Weekly test is the part of CAS. Teacher can diagnose the student's performance and can give necessary feedback through it. It is the better way of increasing student's performance. In Nepalese context, weekly test would be the pin stone to increase student's performance, because most of the schools have the lack of the physical facilities of trained teachers, inadequate budget and other. CAS was introduced during NESP (1971) which linked assessment in class to the formal quarterly tests and end of the yearly test. Continuous assessment is also used to provide teachers with feedback about student's performance and achievement. For beginning of CAS in Nepal, its first experimental program was done in five different districts of Nepal recommended by the master plan of BPEP II (MOE, 1997) and the result obtained from the various pilot studies. To minimize the number of dropouts and failure cases, curriculum assessment system under the Ministry of Education in Nepal since 2001/02. The pilot program was instructed in five district Chitwan, Illam, Surkhet, Kanchanpur, and Syangja. Now it is conducted throughout the country.

According to NESP (1971-76) it was managed for district level exam in class three, where evaluation was based on pervious class internal assessment as well. In fact, 50% weightage was allotted for class one and class two and 25% was for internal assessment of class three. Whereas only 25% was there for external evaluation. This also implies the emphasis on internal type of assessment which is very closely related to the concepts of CAS. In CAS, according to NESP (1971) as follows;

- The class teacher assesses the students along with teaching on a continuous basis. There is no separate periodical examination.
- Teaching method is always students centered not class based.
- Examples of student's work are kept in their portfolios.
- All the learning outcome of the curriculum is used as the basic of the teaching and assessment of the students.

- The class teacher keeps the student's progress record a specific set of learning outcome indicators.
- Student's progress records are kept in their portfolios.

Continuous assessment is an assessment approach which should depict the full range of sources and methods teacher use to gather, interpret and synthesized information about learner's information i.e. used to help teachers understanding their learners plan monitor instruction and establish a viable culture.(Airasion, 1991: p.27).

Objectives of the CAS. According to Continuous Assessment System, trainer manual (CDC, 2056) the objective of this continuous assessment system (CAS) programmed as follows.

- To evaluate student continuously using various mediums and tools.
- To make evaluation student centered and use it for effective teaching learning.
- To encourage brilliant students and assist weak students.
- To create favorable environment for regular attendance of students.
- To reduce dropout rate of student's due to teaching learning and failure in final examination in order to maximize the primary cycle completion rate.
- To minimize the stress of examination in students.
- To reduce class repetition rate.
- To launch liberal promotion policy through CAS.

Statement of the Problems

Ministry of education Nepal has brought the policy of continuous evaluation system and has been implementing. This system can assure that students need to be tested regularly by using different tools and measures in order to be fair to the students and school management however are not positive to CAS in our context. It is necessary to create positive attitude towards CAS for successful implementation. Effectiveness of CAS is not established through practice yet. Some schools were implementing CAS and some were not. The researcher feels that most of the educational instructions are using the traditional paper pencil test to evaluate all aspect of students which cannot progress students achievement in Mathematics. In practical the performance in Mathematics at lower secondary level was being very poor due to the lack of regular assessment and feedback. So, the researcher intends to study the ways of promotingCAS on Mathematics classes in the context of Nepal.

Objective of the Study

The objectives of the study were

1. To explore the challenges and opportunities of CAS in mathematics classroom.
2. To uncover the ways to make CAS students friendly.

Justification of the Study

The Educators and different curriculum planners emphasized that the tests taken 3 or 4 times of an academic period only cant evaluate the all aspects of the mathematics students. They have put their views that all of the students should be assess in a regular basis. Most of the educational instructions are using the traditional paper pencil test to evaluate all aspects of students in our country. But educators and curriculum planners emphasized that the tests 3 of 4 times of an academic period cannot evaluate the all aspects of the students. It is clear that all the students should be assessed in a regular basis so CAS is urgent need in our country.

Ministry of Education has been making various efforts to develop primary education either qualitatively or quantitatively to make it assessable for all children. For this purpose various efforts have already been carried out and different program are going on at present. However, the quality aspect of primary education is not found satisfactory. All of schools going age children are not enrolled; a large number of children fail, repeat class and dropout rate is very high. Existing periodic evaluation system based on paper pencil test is also responsible for this problem.

In a long period of student's evaluation a lot of default was found and to overcome those types of limitations of traditional evaluation system there is the CAS. So mainly it works for the elimination of exam phobia of the student is making them hopeless to express their knowledge in fixed plan and limited period. For the part of educational quality and formative purpose the traditional assessment is not capable, neither it gives feedback to the students so that some remedial measure can be taken nor it helps to find the problem as a whole. So CAS discourage student to be exam centered where as traditional assessment is encouraging to exam oriented to some extent. This all shows CAS is useful system not only for the summative purpose but also for the formative purpose so this study has following signification.

- It helps to formulate the policies and program to reduce failure in mathematics and other related problems.

- This study would be supportive for educators, curriculum planner, parents, researcher, teacher, student, and other stakeholders related to mathematics education.
- It helps to implement on the school to increase student achievement and teacher techniques im mathematics classroom.

Research Question

- To fulfil the objectives of this study, the following research questions were formulated.
- What are the challenges and opportunities of CAS in Mathematics Classroom?
- How to make CAS students friendly?

Delimitations of the Study

Any study cannot be free standing consequently. Due to various delimitations and resource constraints, it is not possible to conduct the research on the large scale. Hence, delimitations for this research wereas follows:

- The study was delimited within the geographical boundaries' of Kathmandu district.
- The study was delimited in public school and public university.
- The study was delimited only one public school and other is Tribhuvan university of Kathmandu district.
- Some of the variables like- age level, home environment was not controlled.

Definition of Related Terms

Continuous Assessment. Continuous Assessment System is such type of student evaluation, which can be carried out along with their teaching-learning activities through their education process. This is diagnostic, classroom base process to measure learner performance. It uses many ways to determine what a learner knows, understand, think and can do. It means to be a part of daily teaching and learning process in order to improve teaching and learning.

Non-CAS Student. Student of that school where continuous assessment system is not implemented.

CAS Student. Students of that school where continuous assessment system is implemented.

Impact. The powerful affect that something, especially something new on a situation of person (Cambridge Dictionary)

Public School. Those School which receive regular government financial support and logistic.

Chapter II

Review of Related Literature

This Chapter deals with the review of the related literature in this study. Mainly the literature includes previous thesis, books, journals and internet.Almost all national education commission reports, national ministerial documents, theoretical concept and practices regarding continuous evaluations were reviewed. Almost all national education commission reports and educational plans of Nepal have stressed the need of comprehensive and regular evaluation of students learning. The first and most comprehensive report on education “Education in Nepal (2011 B.S.)” has stated that evaluation must cover all aspects of students learning and it should be regular.

Review of Empirical Literature

The National Education Commission Reports, (1992) stressed the need to introduce comprehensive and regular evaluation scheme for proper judgment of student learning and for quality improvement in education. But it did not materialize. Six years later high level national education commission report (1998) blamed the existing examination system for creating the series educational wastage at the primary level was due to defective examination system. The commission stated "the main reason for student’s dropout and class repetition has been the annual examination system".

Master Plan of BPEP II (MOE,1997) recommended implementing continuous evaluation of the students supported by liberal promotion policy. With the recommendation of BPEP II Master Plan, “Program Implementation Plan” for 1999-2004 recognized, “Continuous assessment of students learning achievement is a key element of quality improvement strategy”. PIP emphasized continuous assessment strategies to form part of an integrated set of teaching techniques. CAS has been developed and piloted under BPEP II in school of five district selection with the aim in planning and using learning intervention for each of the child on continuous basis.

Continuous assessment system, the evaluation of student learning does not depend only on exam scores. A scheme of evaluation as suggested by Ministry of education in Nepal, examination system was divided in two part continuous evaluation and formal exam. Continuous evaluation covers 40% of the full marks and

includes home work/class work (class participation), project work, behavior changes, creativity work and attendance. Formal exam covers 60% of the full marks and it include only tri-monthly and annual test (CDC, 2068).

Bell (1999) did research on "Traditional assessment versus alternative assessment". The purpose this study was determines whether a teacher could use one type of assessment to evaluate student's abilities fairly. The question is whether if not alternative assessment strategies are necessary to meet student's individual needs. The research with 28 fifth graders compared their traditional and alternative reading and mathematics scores surveys were also distributed to 20 teachers and 100 students. The result indicate that the two years of testing cannot be compared a majority of the time, indication a need for both types of assessment. The survey finding suggests that teachers and student are individual who all need various types of assessment.

CAS (Teacher's Guide, 2000) indicated that the CAS is going toimplement by aiming of improvement the quality of primary education, reducing the class repetition rate and to reduce drop out. I hope we will be able to do these if we all are committed to implement if effectively.

Accordingly both the Ninth (2054-2059 B.S.) and the Tenth Plan (2059-2064 B.S.) five year plan stated to introduce continuous evaluation system at the primary level. The Ninth Plan stated to gradually implement the continuous evaluation system for students. The Plan targeted to experimentally implement the liberal promotion policy to upgrade from grade one to three, the Tenth Plans had programmed to introduce continuous assessment system up to grade V on the basis of piloted experiment and experience. It is clear form these contexts that MOE is planning eventually to introduce CAS nationwide in primary education. As a preliminary stage to this a piloting of CAS was first introduced from grade one in 2057-2058 and in subsequent years in grades two and three.

The review of related literature deals with the theories of research studies, which had been conducted earlier. It helps to conduct the new research in a systematic manner by providing the pervious status of the knowledge in the problem area, the general outline of the research study and avoid the unnecessary duplication. Realization the importance of literature review, some theoretical concept and related literature mainly focusing on the effects of CAS system on student's achievement in mathematics are reviewed.

Nepali (2012) carried out a research on “Challenges in implementing continuous assessment system". The main purpose of the study was to find out the teacher challenges on implementation of continuous assessment system. The sampling population of the study was 60 primary level teacher of the government aided school. He used purposive non random sampling procedure selected 20 government aided schools of Palpa district and 3 teachers from each school. He used open and close ended questionnaire for data collection. He found that CAS increased the attendance of the students and it minimized the number of failures through liberal promotion system etc.

American Association for the Advancement of Science (1998) has categorized the purpose of assessment into internal and external purposes. The internal purposes for assessment include conveying to students expectation about what is important to learn, providing information to students and parents about student’s progress, helping students to judge their own learning, guiding and improving instruction, classifying and selecting students. The external purpose was to inform the education donors including parents, education departments and ministry about what happened in schools.

According to Dubisky China starts the formative evaluation system at first. China follows the integrated evaluation system from primary to university level. The state should adopt a national examination system of education makes examination card. China follows the continuous evaluation and keeps the record in daily activities of the students. After secondary education, students, take the national level exam and this exam determines who is selected for the university level education (Dubisky, 2000).

Pandey (2006) did a research on “Impact of alternative assessment in mathematics achievement”. The result indicate that there is positive correlation between the accumulated score and competency score of experimental group and the t-test result indicated that the alternative assessment has the positive assessment can be used effectively in Nepalese classroom and useful in reducing the number of failure students.

Pandit (2014) did a research on “Effectiveness of Continuous Assessment System in Mathematics Achievement”. The mixed case study design was the research design for this study. To fulfill the objectives, 100 students were selected from each school (CAS and non-CAS). The information was collected. The t- test was applied to

analyze the collected data. In the comparison of mathematics achievement of students of CAS and non-CAS schools, it was found that there was significance difference between these systems. It was found that the mean achievement score of the students using Continuous Assessment System was higher than that of mean achievement score of students using traditional evaluation system in mathematics.

Pyakurel (2017) did a research on "Impact of Continuous Assessment System on Students Achievement in Mathematics at Grade Four". The main purpose of the study was to find the effect of continuous assessment system on student's achievement in mathematics at grade four. The sampling population of the study was 20 government school of Sunsari District. It is conclude that the mean achievement score of students using CAS was higher than the non CAS in mathematics.

Neupane (1999) did the study, "A Study on the Effectiveness of homework on Mathematics Achievement of lower secondary school students" with the objective to explore and compare of and the achievements of two groups of students when one is given homework without feedback. Pre- test, equivalent group design was adopted. Two school of Dhading District were sampled. Teachers taught in both groups got homework. Experimental group got homework corrected with some feedback but controlled group students did not get such treatment. After six week, a post test was taken. The t-test was applied to conclude that the homework assigned without feedback.

Khanal (2015) did a research on "CAS and its Effects in Mathematics Achievement". This study was intended to analyze the effect of CAS into attitude of Grade IX students learning mathematics and compare effectiveness of CAS for mathematics education. For this study was intended to analyze the effect of CAS for mathematics education. For this study, the researcher selected 40 sample of students. The pretest was taken before implementing CAS. Then the students were taught by the researcher himself on selected contents from geometry of Grade IX curriculum. The duration of experiment was 3 months. After completing the experiment, an achievement test was administered. On pre- test at 0.05, level of significance. It was that the mean achievement score of student using CAS was higher than the mean achievement scores of student using traditional evaluation system in mathematics. The different was significance implies the effectiveness of CAS along with the changes in student's belief in learning mathematics.

Nepal (2018) did a research on “Effects of Continuous Assessment in Mathematics Achievement”. This study was intended to analysis the effect of CAS in mathematics achievement and to explore the teacher’s perception towards CAS in mathematics. This study was conducted in Lalitpur district. The sample of the study consist class six and seven students of selected schools. In total there were 340 students consisting 160 students form class seven and 180 form class six. Survey researcher design was used in this study. The researcher collected data form school record. The data was cores obtained by student in mathematics in the final examination of academic year 2073B.S. and interviews form nine teachers to explore the perception of teachers towards CAS. The collected data was analyzed by two methods. At first the quantitative data was analyzed by using statistical method by finding mean, standard deviation and applying t-test. Secondly, interview data was interpreted qualitative by generating themes.

Acharya (2013) did a research on “Use of Continuous Evaluation System in Mathematics Learning”. This study was intended to analyze the effect of continuous evaluation system into attitude of grade VII students towards learning mathematics and compare effectiveness of continuous evaluation system to traditional evaluation system for mathematics education. The pre-test, post-test non-equivalent group design was the researcher design adopted for this study. For this study, the researcher selected 60 sample of students form two sections involving 30 students in control and 30 students in experimental group. Both the experimental and control groups were taught by the researcher himself on selected contents form set, algebra, and geometry of grade VII curriculum. The duration of experiment was six weeks. After completing the experiment an achievement test was administered on both groups and mean scores were calculated. The result were drawn on the basis of t-test at 0.05 level of significance. It was concluded that the mean achievement scores of students using continuous evaluation was higher than the mean achievement scores of students using traditional evaluation system in mathematics.

The National Education Commission Report (2049) stressed the need to introduce a comprehensive and regular evaluation scheme for proper judgment of students learning and for quality improvement in education. But it did not materialize. Six years later or in 2055 BS blamed the existing examination system for creating the serious educational wastage in Nepal.

Pyakurel (2017) did a research on “Impact of continuous assessment system on student achievement in mathematics at grade four”.This study was intentto find the effect of continuous assessment system on student achievement in mathematics at grade four to find the compare the mathematics achievement of CAS student and non CAS student. This study is conducted in sunsari district. The sample of the study consisted 20 school and 200 students of Sunsari district. Researcher is developed achievement test paper and interview schedule are used for data collection. The mean, standard deviation and t-test are used for statically analysis. The study is a survey research. All the students enrolled in grade four of Sunsari district are the population of the study. The selection of the school was by stratified random sampling for the selection of samples of the students. Purposive sampling method conducted and all corresponding teachers and student were the sample of the study. In the comparison of mathematics achievement of student of CAS and non CAS school, it was found that there was significant difference between CAS and non CAS system. It was found that the mean achievement score of students using Continuous Assessment System was higher than that of mean achievement score of student using non Continuous Assessment system in mathematics.

Bastola (2016) did a research on "Effectiveness of Continuous assessment system in mathematics learning at lower Secondary Level". The main purpose of the study was to find the overall mathematics achievement of CAS and non CAS student through learning process. The sampling population of the study were 300 students of these school. He used purposive non random sampling procedure selected 10 government school of Lamjung disttict. It is concluded that the continuous assessment is effective to the non-continuous assessment system can contribute, if properly applied in improving students achievement is better for achievement improvement, decreasing students, irregularity and dropout scale.

Theoretical Review

The theoretical framework of the study was a structure that can hold or support a theory of research work. It helps the researcher to define and see clearly the variable of the study (Khanal, 2074).According to the theory of social constructivism, social worlds develop out of individuals' interactions with their culture and society. Social constructivism teaches that all knowledge develops as a

result of social interaction and language use, and **is** therefore a shared, rather than an individual, experience.

Vygotsky's theory states that knowledge is co-constructed and that individuals learn from one another. It is called a social constructivisttheory because in Vygotsky's opinion the learner must be engaged in the learning process.

Vygotsky outlined scaffolding as a tool for growth. Learners complete small, manageable steps in order to reach the goal. Working in collaboration with a skilled instructor or more knowledgeable peers help students make connections between concepts.

According to the theory of social constructivism, social worlds develop out of individuals' interactions with their culture and society. Knowledge evolves through the process of social negotiation and evaluation of the viability of individual understanding. Basically, every conversation or encounter between two or more people presents an opportunity for new knowledge to be obtained, or present knowledge expanded. The exchange of ideas that goes along with human contact is at play here.

In order to apply social constructivism theories in the education area, teachers and school leaders need to shift and reshape their perspectives. Both must move from being "people who teach" to being "facilitators of learning." A good constructivist teacher is one who questions students' answers, without regard to whether they are right or wrong, to make sure the student has a good grasp of the concept. Additionally, instructors should have their students explain the answers they give and not allow students to use words or equations without explanations. They should also encourage students to reflect on their answers.

Social constructivism teaches that all knowledge develops as a result of social interaction and language use, and is therefore a shared, rather than an individual, experience. Knowledge is additionally not a result of observing the world, it results from many social processes and interactions. We therefore find that constructivist learning attaches as much meaning to the process of learning as it does to the acquisition of new knowledge. In other words, the journey is just as important as the destination.

The process of learning requires that the learner actively participate in creative activities and self-organization. Teachers should allow their students to come up with

their own questions, make their own theories, and test them for viability. Moreover, those who practice constructivist theory find that imbalance facilitates learning, in the sense that contradictions between the learner's current understanding and experiences create an imbalance, which leads the learner to inquire into his or her own beliefs and then try out new ideas. Instructors should therefore encourage errors resulting from the learners' ideas, instead of minimizing or avoiding them.

Students should also be challenged by their instructors to perform open-ended investigations, working to solve problems with realistic and meaningful contexts. This activity enables the learner to explore, and come up with either supporting or conflicting possibilities. Contradictions need to be investigated, clarified, and discussed.Through the process of reflecting on the collected data, learning is given a push. A good example of allowing reflection is through journal writing, which usually facilitates reflective thoughts.Dialogue within a community stimulates new ideas. All school stakeholders should view the classroom as a community for discussion and exchange of ideas. Students in the classroom are responsible for the defense, proof, justification, and communication of their ideas to the community. These ideas can only be accepted as truth if they can make sense to the community. If they do, they become shared knowledge. In summary, learning occurs not through hearing or seeing, but primarily through interpretation. Interpretation is shaped by what's already known, and is further develop through discussion.

Bender et al (1992) highlight two ways in which constructivist learning can be evaluated. First are how well students are able to function within a content domain, whether they can use the tools and understandings of the domain to solve problems, and if involved in an authentic task, then assessing whether the student successfully completed that task. The second method is students reflecting on the processes whereby they came to their conclusions and document this construction process. These methods relate to the four stages in applying constructivist teaching:

1) Eliciting prior knowledge

2) Creating cognitive dissonance

3) Authenticity and applying to new contexts with feedback

4) Reflecting on learning.

In terms of eliciting prior knowledge, teachers can use formal pre-tests, asking informal questions, having formal interviews with students, or setting up activities such as concept-mapping (Baviskar et al., 2009). Eliciting and organizing the

information in the form of a map that resembles the student's own cognitive construct allows the student and teacher to assess any misconceptions and target the implementation of the lesson plan accordingly. Second is creating cognitive dissonance that should act as a motivator to students as they think how the contradicting beliefs or new knowledge fit with their own constructs. Teachers can select tasks that have a high chance of being problematic for students (ex: case study problem) and so encourage students to think deeply to resolve the conflicting or 'missing' ideas. Furthermore, the third stage is application of knowledge with feedback. This can be in the form of quizzes, presentations, group discussions, projects, portfolios, or other activities where students compare their individual constructs with their cohorts' or new situations. In addition to checking their construct validity, application allows students to define the interconnectedness of the new knowledge to a variety of contexts. Through task authenticity, this new knowledge is integrated permanently finally is reflection on learning where students have the opportunity to express what theylearned. This can be through presentations, papers, or examinations with questions fostering reflection on the learning process. Reflection can also be through activities that are more meta-cognitive in nature like a reflexive paper, a return to the dissonance creating activity, or having the student explain a concept to a fellow student. Constructivist assessment can also motivate students to form their own Checklists, construct rubrics, and aid learning through self and peer-assessment tools. The constructivist approach is based on the idea that knowledge can never be passed from one person to another. The only way to acquire knowledge is to create or construct them. The constructivist approach changes also the role of the teacher in the educational process, the task of them is to organize the environment so that the student himself can construct the cognitive forms that teacher wants to give him.

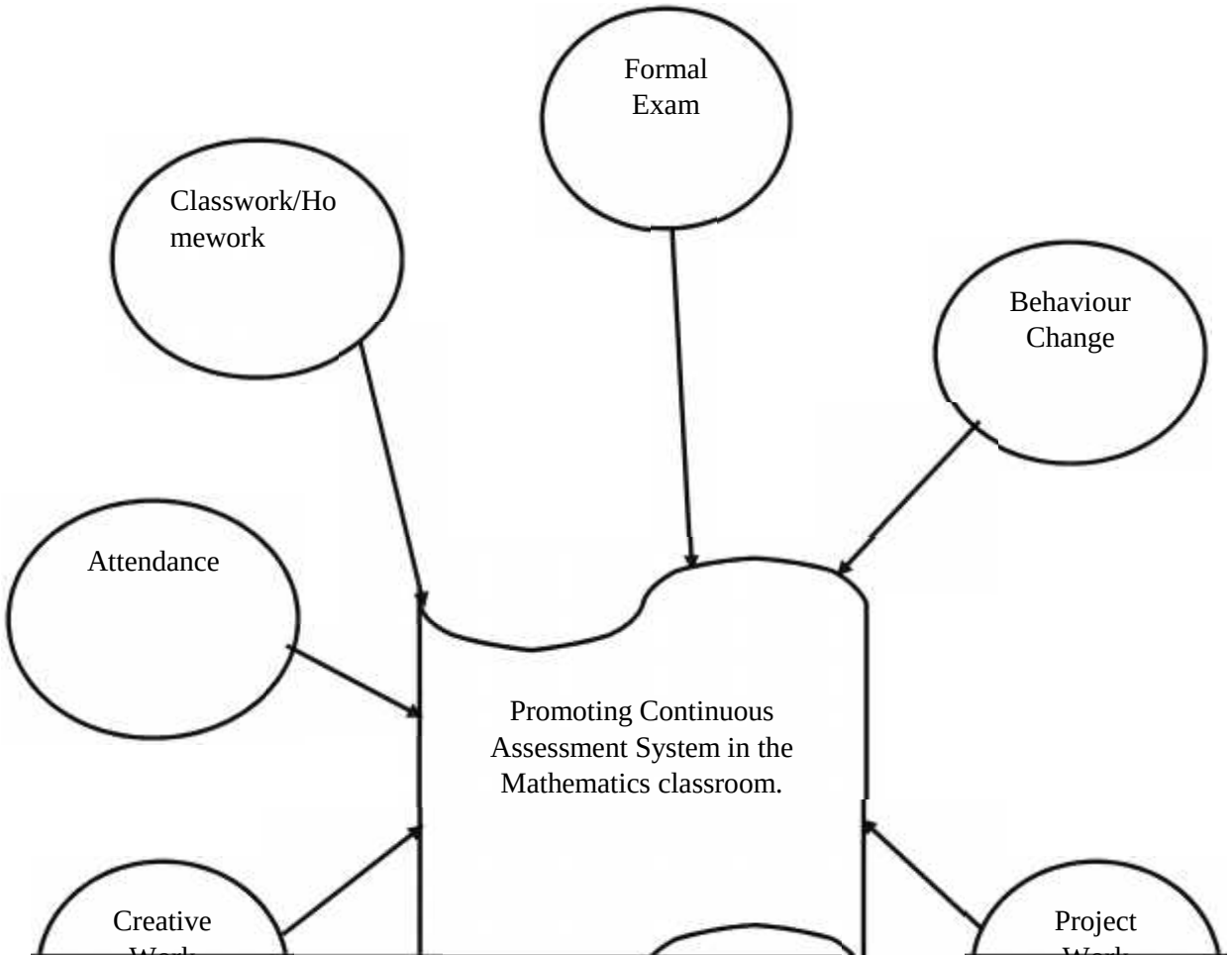
In the paper, the nature of the constructivist approach is identified, different aspects regarding mathematics education are analyzed as well as the potential impact on the development of mathematical competences in the context of sustainable development is discussed. The study process and learning methods appropriate to constructivist approach also were studied. In order to illustrate the need for a constructivist approach in mathematics education, the survey of students from Latvia University of Life Science and Technologies (LLU) and Riga Technical University (RTU) were carried out, the results of which proved that mathematics learning at

universities has to be changed. The current study proved that the constructivist approach radically changes the process of teaching and learning mathematics, connecting it with daily life, rather than teaching only abstract formulas and using a creative approach to mathematical tasks solving. This study shows that using constructivist approach to the teaching of mathematics, the competences needed for sustainable development are boosted.

Conceptual Framework

The conceptual framework is the representation, either graphically or narrative form, of the main concept or variable and the relationship of the in dependent various with dependent variable. This study involves the main six techniques of assessing student's performance formal exam class work homework, project work, behavior changes creativity work and attendance. In the Nepalese context continuous student evaluation implementation book 2008 (MOE-NEPAL) defined the above six factor influence the continuous assessment. The relationship of these factors with continuous assessments is shown in the following figure.

***Figure*: Conceptual Framework**



This figure shows the conceptual framework of the study. The conceptual framework clearly indicates that continuous assessment strategies being used by the teachers are likely to contribute to student's performance in the school. Students attending schools were the teachers were using various continuous assessment strategy tools regularly could perform better achievement.

All teacher are familiar with written technique as it is the most commonly used technique for evaluating student's progress. This is used for unit test, class test, term tests, and half- yearly and annual examination as one assessment component. In three types of exam: pre-test exam (before the experiment), weekly test (six times in the running period of experiments) and post- test (ending period of experiment) are considered as relevant measure to be used in continuous evaluation in Nepalese context. These tests can be designed according to the guideline for expert of good question papers. Moreover class work and assignments, home-work involving written work can be used to assess student's writing ability and practice of mathematical problem. Project work means this type of activities related to the individual and group work. Assessment of student learning can be done on group collaboration and co-operation work as well as individual performance. The teacher should organize group and mobilize their groups by set up project work activities. Students also present their own project work in the whole class. So, presentation skill also developed through project work activities. Behavior change through continuous evaluation is the outcomes expected in students. This change can be observed from new class day –to – day until last month. These changes seen in behavior can be measured internal as well as external observation of student's activities in school and learning attitude. Regularity in the class is an important parts of the student's evaluation. If the student does not attained the classes they cannot involve in all activities consequently back in mathematical knowledge.

Research Gap

The previous researchers which were conducted are focused on the achieving numerical marks as well as surficial aspects of CAS. These researchers focused on the "achievement aspect" of CAS and the research objective are not directly co-related with ministry of education (MOE) polices of CAS. Most of the schools and teacher have not implemented CAS effectively. So this research is different in the same that,

it has focused on the problem of CAS which are faced by schools and teachers, way of effective implementation useful technique of CAS and this research tries to correlate its objective with MOE police of CAS.

Chapter III

Method and Procedures

Research methodology is a philosophy, plan and design used to systematically solve the research problem. It may be understanding as a science of studying how research is done scientifically. It is necessary for the researcher to know not only the researcher method/ technique but also the methodology. Researcher not only need to know how to develop certain indices or tests, how to calculate the mean, the mode, the median or the standard deviation. Researcher also need to understand the assumption underlying various technique and procedures would be applicable to certain problem and other will not. All this mean that it is necessary for the researcher design his methodology. Thus, this chapter describes the design of the study, population and case of study, data collection tools and procedure of the study which meet to achieve the objective of the study. The major procedure will show as follows:

Design of the Study

The research design is intended to provide an appropriate framework for a study. A very significant decision in research design process is the choice to be made regarding research approach since it determines to show relevant information for a study was obtained, however the research process involves many interrelated decisions.

Research design is the plan and procedure for the research (Creswell,2008). This study was based on narrative inquiry, which is the types of qualitative research.Narrative inquiry research is an investigation and analysis of a single or collective case, intended to capture the complexity of the object of study (Stake, 1995). The purpose of Narrative inquiry research is to generate clear, systematic and precise descriptions of the meaning of experience. I wanted to gain concrete, contextual, in-depth knowledge about specific real world of this study. The major concerns of my study were to explore the challenges and opportunities of CAS in mathematics education and to uncover the ways to make CAS student friendly. So, for achieving this purpose I had used narrative inquiry research design because in narrative inquiry research design the data is collected through by interview and secondary data observation in natural setting.

Area of the Study

The area of this study was based on two schools of Kathmandu district.Because it was the home (place) to some of the most intelligent and well informed people in the country's education policy, the data from here would be more reliable. So the researcher was selected this place.

Selection of the Respondents/ Participants

For the participant I have selected the mathematics teachers of Janasewa Higher Secondary School and Tribhuvan Universityusing purposive sampling technique. For the study of my research, I selected five teachers who teach mathematics education and who has studied mathematics education which I had chosen for my research base on the conceptual framework. I had used purposive sampling technique for selection of Participants.

Data Collection Tool

To fulfil the objective of this study the tool of the study were secondary data, and interview which are below.

Secondary Data. . The researcher was obtained secondary data form school visited. The researcher was visited.In addition, various article written by scholars related to continuous mathematics student's assessment have been reviewed.

Interview. To fulfill the required objective, the researcher prepared interview schedule. The researchers was take interview about the mathematics subject teacher and head teacher.

Quality Standards

Quality standard refers to how well a test measure and what it is purposed to measure. Quality standard of research tools has determine with the help of related theory and subject expert. To determine the quality standard of research tools the interview will take over a period of time with the selected samples. Further the purposive sample technique was adapt to maintain the trust of the study. I was also try to ensure the internal validity by observing the same data on the basis of conceptual framework develop in previous section.

Credibility. Credibility is the first aspect, or criterion, that must be established. It is seen as the most important aspect or criterion in establishing trustworthiness. This is because credibility essentially asks the researcher to clearly link the research study's findings with reality in order to demonstrate the truth of the research study's findings (Korstgens & Moser, 2018). So to maintain credibility of my research I was spent more time with the respondents and engage with their work. I was noted them, transcribe the data, code the data and built themes of the collected data.

Transferability. The degree to which the results of qualitative research can be transferred to other contexts or settings with other respondents. The researcher facilitates the transferability judgment by a potential user through thick description (Korstgens & Moser, 2018). For the transferability of this research, I was explained the digital technologies practiced by mathematics students in their teaching-learning activities. This study will be helpful to curricular to design new curriculum for mathematics student regarding transformative pedagogy.

Dependability. The stability of findings over time. Dependability involves participants' evaluation of the findings, interpretation and recommendations of the study such that all are supported by the data as received from participants of the study (Korstgens & Moser, 2018). To maintain it, I was observed the respondents, take interview with selected respondents. I was presented present the logic used for selecting respondents and events to observation, interview in this study.

Conformability. The degree to which the findings of the research study could be confirmed by other researchers. Conformability is concerned with establishing that data and interpretations of the findings are not figments of the inquirer's imagination, but clearly derived from the data (Korstgens & Moser, 2018). For the conformability I was collecedt the information through my own ideas and experience because I also a part of students. For this I was observed the field of this study, proper interact with respondent and then I had explained the obtained the information.

Data Collection Procedure

For the collection of data, I visited in each sampled school which were selected for my research. After the preparation of my interview questions, I prepared the interview schedule with related teachers and experts then the data was collected according to the interview scheduled time. I observed the classroom of mathematics

three times by the permission of the Depart Head or mathematics teacher or another related persons.

I collected the data by in-depth interview with the concern of related mathematics teacher separately. I used primary and secondary sources for data collection procedure. The primary information was collected from mathematics teacher and other related person and the secondary information was collected from article, reports, books newspapers and other sources. After collecting the data, the researcher interpreted and analyzed the data then the findings and the conclusion were drawn.

Data Analysis Procedure

After collection of the data from selected sample using interview guidelines the researcher analyzed and interpreted the data. This study was limited into qualitative research therefore the major part of data analysis was based on descriptive analysis. The data collected from interviewswas analyzed descriptively on the basis of conceptual framework. To analyze the collected data, I followed the procedures as: organized the data, edited the data, did coding and recoding the data, drew the themes, reporting and finding procedure. Firstly, I constructed different themes based on conceptual framework then I organized the data and then I generated the different code according to the response of participants and also decoding of the data according as similarities. After coding and decoding the data the researcher gave the title for them and reporting and finding the procedure. After analyzed the collected data, researcher used the triangulation method to conclude the research.

Ethical Considerations

Ethical Considerations can be specified as one of the most important parts of research. The ethical considerations of my research studies wereThe data was taken by the permission of campus chief and the guidance of my supervisor, The privacy of the participants was secured and respect for privacy, Data was taken by consent without any harm, All the information was managed with strict confidentiality.
I respected the autonomy of participants for answer the question.

Chapter-IV

Analysis and Interpretation

This chapter is completely based on analysis and interpretation of data. In order to fulfill research question and to achieve the objectives of my study, the qualitative research design method was used to collect data. Data analysis involves reducing and organizing the data, synthesizing, searching for significant patterns, and discovering what is important where Data interpretation is the process of reviewing data through some pre-defined process which help assign some meaning to the data and arrive at a relevant conclusion. For this purpose data are collected through the methods of Interview schedule and secondary sources.

In case of interview, the researcher reached at Central Department of Mathematics Education of Tribhuvan University and Janasewa Secondary school Kirtipur municipality. The researcher took interview with Mathematics teachers of Janasewa higher secondary school and the Central Department of Mathematics Education through the help of interview schedule prepared by himself which is included in Appendix "A". The data were interpreted and analyzed in the following headings:

- Introduction of CAS
- Mathematics teachers views towards Challenges and opportunities of continuous assessment system in mathematics education.
- Mathematics teacher's perception about how to uncover the ways to make continuous assessment system student friendly.
- Interpreted the above teacher's views linking it with secondary source of data.

Participant Narrative 1Participants of the Study

The five participants of the study were Udayjung, Rameshwar, Sneha, Kulbir, and Chaitanya (pseudo names). Udayjung (a male participant) had a Master Degree in Mathematics. And years of experience in teaching and secondary school mathematics at the school level. He had been teaching secondary level and basic students (preservice teachers) at Jansewa secondary school in Nepal for 15 years. The second participant, Rameshwar (a male participant)also had a M.Ed. degree and had been a school teacher for 10 years. Hewas involved in a team that was designing the mathematics curriculum at the school level and had been invited to do so by the

Ministry of Education. He had been involved in teacher training as a mathematics subject trainer. The third participant, Sneha (a female teacher) had M.Phil. She had been teaching university's mathematics for 10 years and was working as teacher inuniversity. The fourth participant was Kulbir (a male professor). He was a teacher of mathematics education at a public school in Nepal with 12 years of teaching experience in mathematics and pedagogical courses at basic level. He was also wrote a several guide of mathematics for the basic level. The fifth participant, Chaitanya (a male participant), had an M.Phil. Degree and a few years' of teaching experience in teaching school mathematics (i.e., elementary and high school). He had been teaching various content and pedagogy subjects at a Tribhuvan University for 12 years; had supervised several undergraduate students in their practice teaching; and had published research articles related to teaching–learning.

In-depth Interviews

An in-depth interview is a flexible tool for qualitative data collection that enables multisensory channels to be used, for example, verbal, spoken, and heard (Cohen, Manion, & Morrison, 2008). Thein-depth interviews were administered by deeply exploring the issues related to the study topic and thefull range of concepts and ideas of the cultural relevance of mathematics (Sullivan, 2001). An interview guideline was prepared with a sequence of questions to evoke a descriptive account of the (Moustakas, 1994). The interview often began with a social conversation to build trust and create a relaxed atmosphere so that the researcher could establish a rapport with the participants. The interviews focused on questions related to one main question: To what extent does basic mathematics education emphasize critical thinking with multiple perspectives and teachers views on continuous assessment system of mathematics. The interviews also emphasized the link of challenges and opportunities of continuous assessment system in mathematics education and uncover the ways to make continuous assessment system student friendly. (Acharya, B.R., Kshetree, M.P., Khanal, B., Panthi, R.K., & Belbase, S., 2021).

Data Analysis

Qualitative data were collected through in-depth interviews with the five research participants. After the interviews, the recorded data were transcribed and translated from Nepali to English. The translated transcripts were read and re-read

several times to make sense of the ideas and concepts that emerged and were related to the main research question. After having a full understanding of the data, the important concepts and ideas in the data were coded based on the meanings, and their relevance to the major research questions. The coding involved segmenting and labeling concepts from the transcription text to form descriptions and broad themes in the data. A focus was the six domains highlighted in the theoretical framework of the study. After the encoding, meaningful categories were generated from the data. This process helped to link the codes to themes and align the themes to the research questions. While performing this step, I adopted the Mishler (1995) models of narrative analysis and focused on "reconstructing the told from the telling" (p.95). I reconstructed the participants' narratives from the pieces of interview data while organizing them into a coherent thematic construction and interpretation. Several themes were generated from the data, and I discussed two major themes in the next section. A follow-up interview was conducted with each participant and focused on the two themes while considering the theoretical domains from the framework—challenges and opportunity of continuous assessment system and to uncover the ways to make continuous assessment system student friendly. The follow-up interview data helped me to consolidate the themes.

1) Challenges of Continuous Assessment in Mathematics Education

This study explore the challenges of continuous assessment system in mathematics education. Different studies suggest different types of challenges faced in continuous assessment. The Nepali education and training policy affirmed that "CAS in academic and practical subjects including aptitude tests will be conducted to ascertain the formation of all around profile of students at all levels". As the result of this policy, students learning outcomes in both secondary and basic level education are supposed to be assessed using continuous assessment producers in relation to three primary domains: cognitive, affective and psychomotordomain. From this idea we can deduce this compressive term which refers particularly to inquiring into the learners' competence, knowledge, attitude, and skill through various students profile using different assessment methods to improve learning, has become an integral part of learning process over since the policy has been implemented

In this perspective when researcher asked about the View on the challenges of continuous assessment in mathematics classroom practices of to the respondents then replied as accordingly:

Participant Narrative 1

Udayajung (pseudo name) was male respondent said that "Continuous student assessment is an experimental concept that is difficult to teach with many students together. Therefore, the management of large class size is a major challenge of continuous student assessment. Our education system is more policy and program centered than practicaltherefore, continuous student assessment policies and programs should not only be focused but also committed to implementation. Which is also the challenge of Continuous assessment system. Emphasis on quantitative rather than qualitative education has led schools to focus on getting students to take exams by completing courses rather than emphasizing a continuous assessment system. Therefore, rewriting or effective management of the subject matter is considered as a challenge. Teachers take the continuous assessment system to be complex and cumbersome systemdue to the fact that it takes a lot of time and a lot of hard work, the attitude of the teacher towards the continuous assessment system has become negative. Therefore, the main challenge faced today is to develop a positive attitude of teachers towards continuous assessment. Absence of good practice of benchmark is the main problem of our evaluation system so to avoid this practice is the main challenge for continuous assessment system. Lack of clear knowledge of continuous assessment system in teachers has led to complexity in its implementation, so providing a clear roadmap for continuous assessment system seems to be a challenge."

Participant Narrative 2

Rameshwar was male respondent said that "There is a lack of skilled manpower along with physical infrastructure, educational materials for the development of continuous assessment system, so it is a challenge to manage and implement these problems. Due to the linguistic, ethnic and class differences in the assessment system, there seems to be a problem in its implementation, the solution of which is the major challenge of the continuous assessment system. Continuous assessment system requires regular attendance of students as regular attendance of students is its beauty which seems to be low now so its effective implementation with regular attendance of students seems to be a challenge as a student.And the teacher

was found to have a negative attitude towards continuous evaluation. He was found to have spent a lot of time at school, developing his personality."

Participant Narrative 3

Sneha was female respondent said that "Emphasis on quantitative rather than qualitative education has led schools to focus on getting students to take exams by completing courses rather than emphasizing a continuous assessment system. Therefore, rewriting or effective management of the subject matter is considered as a challenge. Teachers take the continuous assessment system to be complex andcumbersome systemdue to the fact that it takes a lot of time and a lot of hard work, the attitude of the teacher towards the continuous assessment system has become negative. Therefore, the main challenge today is to develop a positive attitude of teachers towards continuous assessment. Absence of good practice of benchmark is the main problem of our evaluation system so to avoid this practice is the main challenge for continuous assessment system. Lack of clear knowledge of continuous assessment system in teachers has led to complexity in its implementation, so providing a clear roadmap for continuous assessment system seems to be a challenge. there is a lack of skilled manpower along with physical infrastructure, educational materials for the development of continuous assessment system, so it is a challenge to manage and implement these problems."

Participant Narrative 4

Kulbir was male respondent said that "There is a lack of skilled manpower along with physical infrastructure, educational materials for the development of continuous assessment system, so it is a challenge to manage and implement these problems. Due to the linguistic, ethnic and class differences in the assessment system, there seems to be a problem in its implementation, the solution of which is the major challenge of the continuous assessment system. Continuous student assessment is an experimental concept that is difficult to teach with many students together. Therefore, the management of large class size is a major challenge of continuous student assessment.Our education system is more policy and program centered than practicaltherefore, continuous student assessment policies and programs should not only be focused but also committed to implementation. Which is also the challenge of Continuous assessment system. Emphasis on quantitative rather than qualitative education has led schools to focus on getting students to take exams by completing

courses rather than emphasizing a continuous assessment system. Therefore, rewriting or effective management of the subject matter is considered as a challenge."

Participant Narrative 5

Chaitanya was male respondent said that "Absence of good practice of benchmark is the main problem of our evaluation system so to avoid this practice is the main challenge for continuous assessment system in Mathematics. Lack of clear knowledge of continuous assessment system in teachers has led to complexity in its implementation, so providing a clear roadmap for continuous assessment system in mathematics seems to be a challenge.There is a lack of skilled manpower of mathematics along with physical infrastructure, educational materials for the development of continuous assessment system, so it is a challenge to manage and implement these problems. Continuous assessment system requires regular attendance of students as regular attendance of students is its beauty which seems to be low now so its effective implementation with regular attendance of students seems to be a challenge. as a student.And the teacher was found to have a negative attitude towards continuous evaluation. He was found to have spent a lot of time at school, developing his personality.Our education system is more policy and program centered than practicaltherefore, continuous student assessment policies and programs should not only be focused but also committed to implementation. Which is also the challenge of Continuous assessment system."

From the above argument, the researcher argued that respondents have clear concept about the challenges of continuous assessment system in mathematics classroom. We have many challenges to implementation of continuous assessment system in classroom. Continuous assessment is a form of educational examination that evaluates a student's progress throughout a prescribed course. It is often used as an alternative to the final examination system. Proponents of continuous assessment argue that the approach allows tracking of progress and has a chance of offering students more support, guidance, and opportunities to improve during the course or program. But for the effective implementation of Continuous Student Assessment in addition to the appropriate school environment, the number of students in the classroom and the student's home environment also have an effect.

Our education system is more policy and program centered than practicaland the management of large class size is also the challenge of continuous assessment system.There is a tendency in our schools to add more quantity than quantity to the

quality of education. So effective management is a challenge for continuous system. Similarly, in continuous evaluation, it was found that the teachers did not evaluate correctly due to time constraints because it takes a lot of time and effort to make such an assessment. This is not possible in case of fear of lazy teachers. In addition, the teachers continued to evaluate the students in order to develop their personality in the classroom immediately, instead of making them interact with their peers. The only fear was that the math class would be effective, otherwise the learning would not be effective. Teachers themselves seem more pessimistic towards their skills to apply CAS. They are not sure that whether all the teachers have positive attitudes towards CAS.

Various problems including lack of clear knowledge, lack of skilled manpower, lack of physical and educational materials have made the continuous assessment system challenging.Similarly, the above interview has also shown that there are problems in the implementation of continuous assessment system due to various ethnic, linguistic, religious and class reasons.Continuous assessment system requires regular attendance of students as regular attendance of students is its beauty which seems to be low now so its effective implementation with regular attendance of students seems to be a challenge as a student. Therefore, if these problems can be effectively implemented, continuous student assessment can be expanded as an effective system in the education system.

2) To Explore the Opportunities Continuous Assessment System in Mathematics Classroom.

Participant Narrative 1

Udayajung was male respondent said that “When continuous student assessment is implemented continuously in any school or inthat school, opportunities are created for both the teacher and the student group.Continuous classroom assessments give teachers the opportunity to improve theirteaching skills by understanding the psychology of the student, the teacher can improve his / her teaching skills accordingly. This creates opportunities to develop the qualities that a good teacher needs to develop continuing to evaluate the student, if the student is found to be doing what the teacher said, then the teacher can add more energy to himself and improve the learning activities. Continuous student assessment also helps the student’s teacher to identify and improve the student’s weaknesses. Continuous student assessment shows that students learning is led along with equitable

participation. Continuous student assessment also provides an opportunity for teachers to evaluate how effective their teaching-learning activities have been. This gives the teacher an opportunity to get to know the student as well as the student to get close to each other and ask about their thoughts and difficulties in the subject matter. Continuous student assessment creates the opportunity to provide daily support to teachers andstudents. It also creates opportunities to improve teaching methods Continuous assessment system brings efficiency in teaching and learning. Continuous student assessment helps the student to make the best use of the time as well as the student's ability to make the best use of the time and also to support and motivate the student in learning."

Participant Narrative 2

Rameshwar was male respondent said that "Continuous student assessment methods help teachers develop assessment skills. This creates an interactive environment between teachers and students. When this type of assessment is used in any classroom, it provides an opportunity for students to be constantly motivated to learn. Continuous assessment in the classroom develops the speaking skills of non-speaking students as well as the opportunity to engage all students in learning in the classroom through continuous student assessment. Continuous assessment provides an opportunity for the student to have a long-term theoretical knowledge as well as to make it clear what the student does not understand. From which the teacher immediately gets the opportunity to correct the student's weaknesses. This of assessment gives students the opportunity to not waste time and always participate in learning activities. Continuous student assessment provides an opportunity for students to clarify what they have not learned in the classroom. Continuous student assessment not only teaches book knowledge but also supports the holistic development of the student. This develops the ability for students to easily participate in new outdoor environments where they can easily solve practical problems in the future. It also helps in the development of new ideas such as what are the real problems of the student and how to solve the problem."

Participant Narrative 3

Sneha was female respondent said that "Continuous assessment system is the act (element) of creating great opportunities for teachers and student's Continuous assessment creates opportunities for immediate improvement by identifying weaknesses in a student's learning. Continuous Student Assessment gives all students

the opportunity to learn in the same environment not only that, it also gives the teacher the opportunity to find out the weaknesses of the students and provide proper support to the weak areas.Continuous student assessment also provides an opportunity for the teacher to understand child psychology and to establish himself as a skilled teacher by making a difference in his / her teaching skills accordingly.Continuous assessment makes the teacher-student relationship interactive and brings fragility to the relationship. This gives the student an opportunity to improve his / her weaknesses. This kind of assessment helps not only the teachers and students but also the future plans and strategies of the school.It also provides an opportunity for parents to understand their children's interests, desires and weaknesses, and parents can change the environment and their behavior according to their desires. The continuous assessment method provides various opportunities to the student such as what can be done in the future, what is his real interest, what are the weaknesses and how to create a suitable environment for the student."

Participant Narrative 4

Kulbir was male respondent said that "In fact, the continuous student assessment system is a great golden opportunity for teachers and students When there is no continuous student assessment in any school, there is no level of learning between students and teachers in that school, which makes learning ineffective.When continuous student assessment is conducted in any school, it provides an opportunity to find out the shortcomings of fear between the students and the teachers and to correct the problems immediately. The continuous assessment method provides an opportunity to find out the personal weaknesses of the teachers and students as well as to understand the psychology of the students and act accordingly.When a student is not afraid to participate in classroom learning, the student's interests, desires, needs, weaknesses, his or her actual abilities can be discovered by a teacher using a continuous assessment method. There is an opportunity to share the shortcomings with the teacher. The teacher also tells the student what kind of activities and behaviors to perform in the classroom tomorrow.Gets the opportunity to prepare in advance. Which can easily solve the problems that come up in the classroom In the same way, continuous assessment helps the parents of the students to find out the wishes, desires and weaknesses of their children in time and also to address their proper needs. The school administration also gets the opportunity to create an educational environment according to the needs and desires of the students."

Participant Narrative 5

Chaitanya was male respondent said that “Continuous assessment method brings fragility in the relationship between teacher and student The teacher has the opportunity to understand the details of the student's daily progress It also helps in evaluating the student's actual measurement and the aspect that needs to be evaluated In addition to creating opportunities for students to participate in learning in the classroom, it also helps in the development of speaking student's ability to speak.It creates an opportunity for things that are not understood to be immediately clear in the classroom As a result of continuous assessment, the student can find out the positive, positive and negative aspects of his / her fears as well as improve his / her weaknesses. The teacher also helps the student to find out the weaknesses in the subject matter and to develop his / her teaching methods and techniques in a new way to overcome those weaknesses.Continuous assessment also provides an opportunity to find out what the student's real interest is and what his or her weaknesses are. They can also improve their learning by being motivated by daily activities. It also helps in the final result of the student. It also develops the logical ability of the student.In the classroom, the teacher also develops the student's logical ability. In the classroom, the teacher creates an opportunity for further improvement in learning by establishing a close relationship between the student and the student-student. Also, by discovering their real shortcomings and what knowledge is needed, the student can develop his whole being. And teachers can also teach according to psychology.”

As mentioned above, continuous assessment system provides a good opportunity for both teachers and students. Where continuous assessment method has been found to help the mathematics teacher in developing the personality of the student. The teacher has a good opportunity to correct the shortcomings related to the learning methods and activities that have appeared in him. Not only this, with the help of continuous student assessment you can learn about the types of students who are affected by the way they are taught.

They use Lazarus to hide their shortcomings so that the continuous assessment system immediately identifies the T problems and gives appropriate guidance for the solution. Of the studentAssessment for learning, also called formative assessment, is central to The Inquiry Project andprovides the means to identify and chart the development of student’s ideas and understandings aswell as to identify obstacles they encounter in their learning.As an integral part of the curriculum, assessment

provides ongoing information about studentslearning and helps to inform next steps in the learning. Assessment also informs the research,contributes to refining the curriculum, and serves as a focus for professional development. Student's progress in both science content and the inquiry process are assessed.Learning experiences themselves provide opportunities for assessment. The aim is to identifyopportunities and provide criteria that help teachers and children themselves take stock of thelearning as part of the curriculum.Assessments involve students as partners in their intellectual development by creating a clearvision of what is to be learned, sharing criteria used to judge progress, and providing ways forstudents to monitor, and reflect on changes in their understanding.

CAS helps for equitable participations of learners in learning. Teachers not only assess to the students but also assess their own teaching strategies and improve according to the needs. They get chance to understand child psychology. CAS is not important only for teachers and students progress but also for school administration as well as parents. CAS helps parents/administration to help children to meet their interests, desires, needs, etc.

3)To Uncover the Ways to Make Continuous Assessment System students friendly in Mathematics Classroom.

Participant Narrative 1

Udayajung was male respondent said that "Continuous student assessment is not limited to just the name but it is the important responsibility of the school and the teacher to make it student friendly.When a teacher teaches students in a classroom and forces them to do activities, they have to teach on an experimental basis, linking them to theoretical and practical problems. Otherwise the assessment of the student with chalk and talk method will not be effective. Rather than just teaching and evaluating each mathematical subject by reading and evaluating accordingly, students can easily answer the questions by asking questions through stories, poems, jokes and asking them to answer.Students in the classroom or at home should be involved in the activities they want to do without the pressure of evaluating each of their activities. In addition, when students do a good job, they can be rewarded if they are able to arrange rewards by making sure that what they are trying to evaluate in learning and evaluation has been evaluated.Learning will be more effective if they are rewarded after each positive activity in the classroom, even on a daily, weekly, monthly basis. Necessary educational materials and corresponding physical environment should be

provided for continuous student assessment Parents should be informed about the good work done by the children in the school and they should be obedient in and out of the school and the parents should help their children to create a suitable environment.No matter how many activities are carried out, they should be forced to do as they please the teacher should treat every student equally in a non-discriminatory environment."

Participant Narrative 2

Rameshwar was male respondent said that "In order to make continuous student assessment in the classroom student-friendly, the teacher must treat each student equally. If treated unfairly, students become discouraged rather than enthusiastic about learning. Therefore, the teacher should not only focus on the student who always knows, but also treat every student equally.The teacher should be able to evaluate every activity of the student in a child-friendly environment without any pressure, encouraging the student and advancing the learning. If you start to put pressure on them, they will not be able to attend class tomorrow and will be more likely to do bad things.It is important for the teacher to be able to get students to do their activities through competition and collaboration, rather than asking questions in the classroom or evaluating them unilaterally.This will help the students to develop a supportive and competitive spirit towards each other which will make the assessment more effective. The environment should be conducive to adding more positive energy by informing the parents about the behaviors of the students in any school. Parents should help their children to behave accordingly as well as to behave as needed. Students have different abilities in a classroom. Therefore, continuous assessment is more effective if proper physical infrastructure and necessary educational materials are provided to address those desires, aspirations and abilities. Also, if the student is rewarded for the good work done, the students will be able to change their behavior further and help the teacher in the continuous evaluation system activities."

Participant Narrative 3

Sneha was female respondent said that "When a school carries out its programs without considering the psychology of the child or the student, the school cannot succeed in learning as planned. Therefore, the assessment done in the classroom should be able to have a positive effect on the psychology of the student As long as negative attitudes towards school and teachers are formed in the minds of the students, then the students will not be interested in participating in any such

activities.Therefore, continuous assessment will be more effective if the teacher can teach the students in the classroom without forcing them to learn as a burden, understand their psychology and create a harmonious environment through various educational materials accordingly.At the same time, in order to develop more positive habits of the students in the classroom, by removing the biased behavior and treating all the students equally, every student will move towards becoming more energetic and better in their activities. By informing the parents about the progress details of the children, the parents can create more environment accordingly and make the continuous assessment more effective in the classroom.Even if a student is praised for the good work he or she has done in the classroom, the student moves forward with the intention of doing better in such activities. Whenever a teacher forces a student to do what he or she wants to do, the student develops other outdoor activities and likes to do more. Which also supports the all-round development of the student."

Participant Narrative 4

Kulbir was male respondent said that "It is the duty of every teacher to make continuous student assessment classroom or student friendly. When a classroom is not child-friendly then the continuous assessment system cannot keep pace. It is the duty of every teacher to make continuous student assessment classroom or student friendly. When a classroom is not child-friendly then the continuous assessment system cannot keep paceIn order to preserve the student's interest in each learning, the teacher must be able to solve the problem based on practical problems while constantly evaluating.When the teacher does not have a good relationship with the student, the student does not show his desires, interests, desires and weaknesses, so the teacher does not have the opportunity to know the real weaknesses and strengths of the student. So the teacher should motivate and encourage the student. Appropriate rewards and backing should be given to the small success of the student.Learning becomes more energetic when the teacher is able to play the role not only as a teacher but also as a good friend. Evaluation can be done not only through question and answer method but also through different activities like songs, ghazals, stories, poems and various activities."

Participant Narrative 5

Chaitanya was male respondent said that “Teaching is not the only important thing. It is also important to evaluate how much the student will go after teaching. Continuous assessment is required if the student is receiving information in the classroom Continuous student assessment is considered to be a student-fear only when the student has been able to measure what they want to measure and they have actively participated in the learning process by participating in learning activities.Therefore, in order to make the continuous assessment system effective, any teacher should involve the student in every positive action through rewards.The good and bad weaknesses of the students should be identified in time and their parents should be informed accordingly. The activities related to the personality development of the children should also be linked by the parents. In the classroom, the student should be made happy while doing the tasks, understanding the psychology and engaging in the corresponding learning activities.Only when a student is positively motivated does he or she move forward with excellence in his or her extracurricular activities. From which students can develop their personality as they wish. And if you can teach and learn through evaluation rather than through punishment, then continuous evaluation system will be fruitful.”

What is clear from the above statement is that in order to make the continuous student assessment system student friendly, one should adopt the practical assessment and teaching method based only on theoretical basis. Assessment work should be carried out in the classroom accordingly to create a fun environment for the students.Positive activities should be reported to their parents. In this way, they should take the lead in their activities. If this is not done, the weaker students will become weaker. If they can do this, the students will take the lead in the learning activities. To be inspired in the classroom, students with sharp intellects and low learning abilities learn more by adopting egalitarian behavior. It also helps in the progress of the students and the positive activities of the parents.Rewarding positive behaviors and not putting on pressure to learners for learning promotes positive behaviors. Students should be able to move forward with teaching and learning activities and assessment by adopting various creative methods accordingly by creating a fun environment rather than giving pressure to the activities that are sent to them. If this can be done, continuous student assessment can be made student friendly. The physical infrastructures also affect students learning as well as CAS.

Songs, games, stories or other extra-curricular activities are evaluated as a part of CAS which ultimately promotes mathematics learning.

Chapter V

Summary, Findings, Conclusion and Implications

This chapter deals with their summary of the study, major finding drawn from the study after the analysis of collected data. The area of recommendation is also included for the further study.

Summary of the Study

The present study was concerned with Promoting Continuous Assessment System in Mathematics Classroom. The purpose of the study were to explore the challenge and opportunities of continuous assessment system in mathematics classroom and to uncover the ways to make continuous assessment system students friendly. In order to achieve this goal, a School by the name of Janasewa Higher secondary School and Tribhuvan University of Kathmandu valley was visited for to conduct the study. Narrative Inquiry approach among qualitative research design method was adopted for this study. The data were collected through interview schedule. Five mathematics teachers were selected as the purpose of the study.

Literature on mathematics teaching and learning shown that there is a general consensus on the need to enforce in our student's problem solving and high order thinking skills in mathematics so that they can be captured in pursuing successful careers. Continuous student assessment not only benefits the student but also assists the math teacher in the assessment. In addition to this, the school administration and the parents of the students are also being assisted. When a continuous student assessment system is adopted in any school, the students improve their learning day by day and gradually improve their learning and long-term sustainability.

To be inspired in the classroom, students with sharp intellects and low learning abilities learn more by adopting egalitarian behavior. It also helps in the progress of the students and the positive activities of the parents. Rewarding positive behaviors and not putting on pressure to learners for learning promotes positive behaviors. If this can be done, continuous student assessment can be made student friendly. The physical infrastructures also affect students learning as well as CAS. Songs, games, stories or other extra-curricular activities are evaluated as a part of CAS which ultimately promotes mathematics learning. CAS helps for equitable participations of learners in learning. Teachers not only assess to the students but also assess their own teaching strategies and improve according to the needs. They get

chance to understand child psychology. CAS is not important only for teachers and students progress but also for school administration as well as parents. CAS helps parents/administration to help children to meet their interests, desires, needs, etc. But teachers themselves seem more pessimistic towards their skills to apply CAS. They are not sure that whether all the teachers have positive attitudes towards CAS. In addition, the teacher who adopts continuous student assessment in the school can also develop a new strategy by correcting the shortcomings in their learning. Therefore, continuous student assessment at the school level is essential for students and teachers.

Finding of the Study

The specific objectives of this study were to explore the challenges and opportunities of continuous assessment system in mathematics classroom and to uncover the ways to make continuous assessment system student friendly.Adopting a continuous assessment system in the math classroom has a positive effect on learning for students and teachers. When a continuous assessment system is adopted in any school, it is easy to assess how much the student has learned in the classroom.Use of Digital technology in mathematics class increase the interest of students, it contextualizes the content, visualize the content in mathematics education. Motivating the students is one of the challenging tasks for the teachers in Nepal, it visualizes the content so that the classroom becomes more interactive.Unless the teacher immediately learns what the student is learning, he or she will not have the opportunity to understand what the student knows and how many weaknesses there are. Currently, continuous student assessment system is being adopted in many schools.At first, there was a tendency for the teacher to come to the classroom and give only bookish knowledge and not even know what the immediate student's achievement was. Now there is some improvement in such trends.From the above arguments it was found the following result as the major finding of the study.

- Continuous student assessment system is not applicable in all schools and for which should be implemented in every school.
- Under the continuous assessment system, it was found that many people evaluated how much achievement has been made only in content knowledge.
- It has been found that some teachers are lazy to adopt continuous assessment system.

- There is a lack of knowledge on the part of the teacher on how to conduct continuous student assessment.
- It was found that even though there were skilled teachers in some schools, the physical infrastructure and financially weak schools could not implement them.
- In a classroom with many students, it was found that the progress of all the students at that time could not be accounted for.
- From continuous student assessment, it was found that not only knowledge related to content knowledge can be assessed but also other aspects can be assessed.
- Continuous evaluation also showed the dedication, hard work and perseverance of the school and teachers
- It was found that the student was not only limited to content knowledge but also helped in the overall development of the student.
- Continuous assessment method was found to teach to make a good, character, ethical student.
- In the school and classroom, it was learned that the teacher should immediately evaluate how much he / she was able to teach or not and help him / her to give support accordingly.
- Students were found to be more active in learning through rewards rather than penalties.
- It was found that by informing the parents about the progress of the student, further learning can give positive energy to the student.
- It was seen that every student should be treated equally in the classroom and more participation should be made in learning by creating an interactive environment.
- Learning has been found to be more improved by arranging rewards in lower classes as compared to upper classes.
- The achievement of the school which has adopted continuous assessment system is found to be higher than that of the school which has not adopted continuous assessment system.

- The policies for CAS are not implemented in practical classes. This situation itself is an opportunity as well as challenge for promoting mathematics learning.
- Teachers get chance to improve their own teaching learning strategies. The improvement in teachers' strategy promotes mathematics learning.

Conclusion of the Study

From the above findings of the study, it can be concluded that the progress of the schools adopting this system is always better than that of the schools which have not been able to adopt continuous student assessment system. Continuous student assessment always yields positive results properly covered, it will withstand a great deal of adverse conditions and will lead to positive outcomes.

But if they do not know how to follow a continuous assessment method, students may develop a negative attitude towards learning instead of being attracted towards learning. In addition, continuous student assessment system has not been implemented in almost all schools in Nepal.The main reasons for this were physical prerequisites, lack of knowledge on the part of teachers on how to make continuous students, lack of continuous assessment system in all places or schools due to financial and physical infrastructure as well as large number of students. It was seen that the Government of Nepal and the school management committee as well as the parents should inspect it from time to time.

Continuous student assessment also shows the teacher's hard work, as evidenced by the student's progress.Adopting this type of assessment method, the teacher should prepare in advance and plan accordingly and apply it in a fair manner to all the students. Activities should be carried out in an interactive style between student-student and teacher-student. At the same time, the teacher should inspire the students, treat them like friends and understand the psychology of the students and move the teaching work forward accordingly.If this is done then the student will be able to show his / her shortcomings and keep the things in his / her mind easily. This will make it easier for the teacher to identify the shortcomings in the student as well as give the corresponding guidance accordingly. The policies for CAS are not implemented in practical classes. This situation itself is an opportunity as well as challenge for promoting mathematics learning.

Implications

On the basis of finding in this study the following implications were suggested:

- Continuous should be strictly made compulsory in school level.
- Weekly classroom observation from school supervisor should be done.
- Student should be encouraged to involve in active participation on the continuous assessment system.
- Head teacher should encourage teacher to use continuous assessment system.
- Continuous assessment evaluation system should use in mathematics teaching and learning.
- Especially there should be a body of expert to monitor and provide necessary guidelines in a regular basis to increase the basis to increase the efficiency of teacher on continuous assessment system and obtain enthusiastic result.
- The study does not include mathematics teacher, educators and secondary level teacher beliefs on continuous assessment system. Thus further study is needed in this direction.
- MOE and DEO should play the facilitating role and provide the efficiency of organize many training program for the teacher to increase the efficiency of them.
- Proper technology should be provided to the continuous assessment system school so that record keeping of student's achievement and processing of the data would be easier which would make less burden to teacher while implementing continuous assessment system.
- Certainly continuous assessment system evaluation systems have increased regularize of students in public school but it is not as optimum level because of their poor economics status of family. Still they are to manage their daily hand to month problems. So the government should emphasize to eradicate poverty from the society.

Recommendation for Further Study

The following study should be carried out in order to make the result of the study complete.

- Role of teacher to apply continuous assessment system effectively and regularly in school level.
- The Problem in Nepal to regulate continuous assessment system in school level.
- The further researches can touch guardians' perspectives as well as roles for CAS.
- Teachers' opportunities to improve their own strategies after implementing CAS can be a research area to expand it further.
- The hardships faced by teachers to apply CAS in the schools where there is not good infrastructures.

Educational Implication of this Study

On the basis of finding in this study, the following implications had been suggested to the concerning different stakeholder.

- To implement Continuous assessment system well, there should be balanced responsibility of teachers, students and parents.
- Training for teacher for continuous assessment should be given at school level.
- Teacher should be creative and laborious to apply continuous assessment system effectively.
- School management committee and teacher parents association should play positive role.
- This research can help curriculum designers, planners. Teachers, parents, schools, authorities, students as well as other researchers.

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APPENDIX-I

Teachers Interview Guideline

1. Teachers Name

2. Teachers Age

3. Teachers Gender

The main question of the research was the challenges and opportunities of continuous assessment system in mathematics education and to make continuous assessment system students friendly. In order to get answer of this questions were asked:

i) Does your school have continuous student assessment?

ii) How does continuous assessment affect a student's creative ability?

iii) Has continuous student assessment changed student's behavior? If changed how?

iv How does continuous student assessment contribute to the formal exam?

v) How do student'sattendance and absence effect on going student assessment?

vi)What problems face mathematics teacher and school administration while implementing continuous assessment system?

vii) How to promote the formal exam through continuous assessment system?