Chapter I

INTRODUCTION

Background of the Study

The literal meaning of the 'Assessment' is from the Latin word "assidere" which means "to sit beside". Sitting beside children suggest a close relationship and sharing of experiences. Now a day, the meaning of assessment is not limited as its literal meaning. Assessment is contract to that includes the full range of information teacher gather about their students, instruction and classroom climate. It also includes the full range of method teachers use to gather that information. The term 'assessment' is commonly used with a variety of different meanings. Indeed, the term has come to be used so widely in many different ways in the field of language testing and educational measurement that there seems to be no consensus on what precisely it means.

Brown (2004) defined assessment as "any act of interpreting information about student performance, collected through any of a multitude of a means or practices." Assessment is a general term that includes a full range of procedures used to gain information about student learning (observations, ratings of performances of projects, paper and pencil tests) and the formation of value judgments concerning learning process. It involves the interpretation of measurement data, usually in terms of whether or not an intended level of achievement has been achieved. Assessment narrowly refers to data gathering processes aimed at determining how much a student has learned as a consequence of teaching and experiencing the curriculum. Harlen (2013) describes assessment as the generation and collection of data, the interpretation of the data to produce a judgment, and the communication and use of the judgment.

Assessment is most simply an ongoing process of comparing intended outcomes with actual (observed, documented, realized, measured) outcomes, and working to improve those outcomes over time. It is a part of learning assessment is the ongoing, cyclical practice of setting goals, checking to see how well they have been achieved, and making appropriate adjustments to improve results over time. Assessment links student performance on specific learning outcomes to targeted learning objectives to provide useful feedback about how successfully students are meeting course objectives. Informing instructors what learning is taking place in the class is the primary purpose of assessment (Frey, McKinney, and Trimble 2007).

Assessment of students in learning is one of the components of a total teaching and learning process. In formal education system assessment is taken as fundamental component. For it some principle must be consider and they are as below:

- Clearly specifying what is to be evaluated.
- An assessment procedure should be selected because of its relevance to the characteristics or performance to be measured.
- Comprehensive assessment requires a variety of procedure.
- Proper use of assessment procedures requires an awareness of their limitations.
- Assessment is a means to an end, not an end in itself.

Assessment is categorized into diagnostic, formative and summative assessment. Diagnostic assessments provide instructors with information about student's prior knowledge and misconceptions before beginning a learning activity. They also provide a baseline for understanding how much learning has taken place after the learning activity is completed. Instructors usually build concepts sequentially throughout a course.

Formative assessments take place during a learning activity to provide the instructor with information regarding how well the learning objectives of a given learning activity are being met. In addition, formative assessment is particularly effective for students who have not done well in school, narrowing the gap between low and high achievers while raising overall achievement. Most instructors intuitively use questioning as a method of formative assessment but in large lecture classes not every student can be questioned because of time constraints. Formative assessment is also useful in virtually all learning activities such as preparing oral and written reports, fieldwork and as projects and case studies progress.

Summative assessments are used to evaluate student learning, skill acquisition, and academic achievement at the conclusion of a defined instructional period—typically at the end of a project, unit, course, semester, program, or school year. On this assessment the tests, assignments, or projects are used to determine whether students have learned what they were expected to learn. Summative assessments are given at the conclusion of a specific instructional period, and therefore they are generally evaluative, rather than diagnostic—i.e., they are more appropriately used to determine learning progress and achievement, evaluate the effectiveness of educational programs, measure progress toward improvement goals, or make course-placement decisions, among other possible applications. Summative-assessment results are often recorded as scores or grades that are then factored into a student's permanent academic record, whether they end up as letter grades on a report card or test scores used in the college-admissions process.

Continuous assessment system is one of the examples of formative assessment. Continuous assessment is a way of assessing pupils using a set of learning outcome indicators. It refers to the daily process by which teachers gather information

about learners' progress in achieving the curriculum learning targets. It is continuous because it occurs regularly at different times as a part of instruction. The underlying principle is that at all times the teacher need to know, for each of his/her students in the class, how well they have understood the ideas being taught. Teachers can then use the information for formative purpose as an integral part of their teaching and for summative purpose as well.

Student assessment is the process of gathering, interpreting, recording and analyzing data, using information and obtaining feedbacks for re-planning educational programmes. In carrying out student assessment, educationists and evaluation experts have pointed out that the examination system should be comprehensive and fair. The examination should concentrate on achieving curricular outcomes, bring improvement on teaching/learning activities, and provide feedbacks in formulating national assessment policy (NCF, 2007).

In Nepal mathematics teaching in formal education had been started from the establishment of Durbar High School in 1911 A.D. Moreover, mathematics had been taught as a compulsory subject in Basic School. Since the National Education System Plan 2028 B.S. had given a significant place to mathematics in school education. Basic education is fundamental stage of formal education and design as eight years course. Now the main focus of this course is to develop the mathematical skills to solve daily life problems. From that time when mathematics started teaching in formal education its assessment process also ongoing. May assessment tools change in certain time but assessment of student is definitely done.

The report of High Level National Education Commission (1998) recommended continuous assessment system for grade one to three. This was intended to continue the stay of the children by means of non-testing devices. While it

was claimed, that serious educational wastage at the basic levels was due to defective examination system is annual examination system. Similarly both the Ninth plan (1997-2002) and the Tenth plan (2002-2007) stated to introduce continuous evaluation system as to basic level (National Planning commission Tenth plan). Now government of Nepal has made mandatory to basic school. But in fracture how it is done and what effects it has given to student's achievement is not known. (cited on Pyakurel, 2017).

Like those various national commissions had been made on this period of time they provide various policies of assessment system but in real practice we can't see that either they applied or not haven't administrate by anyone. If we observe assessment polices given by those commissions and assessment system applied on real class we clearly see that many of those assessment policies are limited on paper only. To meet the assessment policies many teacher development program also held still in real class we can see that there is rare practice of student assessment as intended by those various commissions. It raise the questions like, is student assessment practice in mathematics has been done as intended at basis level? If not what is the problem to apply such assessment practice? Why teacher focus more on summative assessment than formative? To deal with such question I select a case study approach to investigate and explore of students assessment practice in mathematics at basic level.

Statement of the Problems

Mathematics has been taught in Nepal for every century. There are many problems in teaching and learning of mathematics. Mathematics teaching at school level does have measurable condition as yet. Time bounded paper pencil test has been taken as a means of evaluation for the achievement of the students in most of the

developing countries. Our school evaluation has utilized this assessment system. The scores resulting from the paper pencil test may not give the sufficient information regarding various aspects of the student's progress. Those sorts of tests are mainly useful for the summative evaluation of the students but not much effective for making them learn mathematics.

The perception of teacher plays vital roles in the overall teaching and assessment process. Most of the teachers in the context of Nepal are seemed to be less confidence towards assessment process. If we look over on the previous researches we can see that there are many researches held about impact of continuous assessment system on student achievement but we can get rare researches which are related to study about student assessment practice. Since assessment system of students play the important role on their mathematics achievement but we can feel that this fact has been rarely study by previous researcher. To fill this gap on research the researcher intends to study an exploration of student assessment practice in mathematics at basic levels' students in the context of Nepal. On this research paper researcher was try to find the answer of the following questions:

- How the teacher practices the assessment to assign their students in basic level?
- Why the teachers are less practices of formative assessment in the school of Nepal?
- In what extent to improve formative assessment in mathematics to get the quality in education?

Objectives

The study was intended to determine the following objectives:

- To assess the present assessment practice in mathematics.

- To find out the challenge to effective use of formative assessments in mathematics.

Justification of the Study

Generally mathematics teaching in Nepal is lecture base approach method and the practiced evaluation system is paper pencil test from basic level to university level. Steps have been taken from many years to improve teaching learning activities and assessment system in school education. Ministry of education has been making various efforts to develop and make the quality in basic education. However access is improved little, but the equality aspects of basic education is not found satisfactory. Still all schools going age children are not enrolled a large number of school children fail and repeat the class and drop-out rate is very high. (Chalise, 2006 cited on Bastola, 2016). Existing traditional evaluation system based on written examination is also responsible for the quality of basic education (class 1-8). Large number of drop-out is seen before complicating basic level education in Nepal.

In a long period of students' evaluation a lot of defaults were found and to overcome those types of limitations of traditional evaluation system there should be good assessment practice. 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 problems as a whole. So to solve such problem assessment practice has to be as intended and perfect. The justification of this study is the following aspects.

- This study helps to decrease exam phobia of students.
- This study helps to formulate school effective policies and strategies to assign students on mathematics.

- It help to explore the effective assessment practice in mathematics which is more valuable thing for school administrators, teachers, students, researcher, curriculum designers and other stakeholders related to education.
- It helps to encourage the students for better achievement in mathematics and help to decrease students' failure rate.

Delimitation of the Study

Delimitation of this study as follows:

- This study was delimitating within the geographical boundaries of Kanchan gaun palika of Rupandehi District.
- This study was delimitating over basic level of school structure.
- This study was done over the two schools' mathematics teachers' students' assessment practice in mathematics.
- This study was cover only the conditions that are related to assessment practice of student in mathematics.
- The data for this study were taken from related schools' Head teacher, mathematics teachers, students and resources person.

Definition of the Key Terms

Assessment

Assessment refers to the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students.

Assessment Practice

This term is use for the technique applied by teacher to assign the achievement of the students.

Basic level

Basic level is class structure where the classes run from grade one to eight.

Students

This term is use for those students who are related to case school.

Achievement

This term is use for mark obtained by the student in exam taken by teacher.

Public school

Public school is those which receive regular government logistic and financial support.

Institution school

Institution school is that which doesn't receive government logistic and financial support and run by private sector.

Continuous Assessment System (CAS)

Continuous assessment is a diagnostics classroom base process to measure learning performance. It uses many ways to determine what a learner knows, understand, thinks and can do. It is meant to be a part of daily teaching and learning in order to improve teaching and learning.

Chapter II

REVIEW OF RELATED LITERATURE

A literature review is a written summary of journal articles, book and other document that describe the past and current state of information on the topic of your research study. The review of literature enables the researcher to know what is known so far and what is unknown. It helps in conceptualizing the problems, conducting the study and brings the investigator who ignores prior research and theory, chances pursuing trivial problems duplication a study already done, or reporting other mistakes exists. Review of the literature is very important to provide an insight into the problem to familiarize the researcher with the studies previously done and to make the researcher to adopt suitable design.

Related Empirical Literature

Review of related literature helps us to understanding where the field currently is and how research can progress it forward in our study. It gives insight into what practices may or may not support in our study. For this study some related literature were reviewed as follows.

Frey, McKinney, and Trimble (2007) wrote a book naming 'Tools and Techniques for Course Improvement: A Handbook for Course Review and Assessment of Student Learning" on that book they describe that assessment is the mechanism by which we find out if our intentions for a program has been successfully transformed into actual student learning, it is essential that assessment practices are practically achievable and functionally effective. They also mention nine principles for good assessment practice as below which are also mention by The American Association of Higher Education:

- Assessment begins with educational values.

- Assessment is most effective when it is multidimensional, integrated, and revealed in performance over time.
- Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.
- Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.
- Assessment works best when it is ongoing not episodic.
- Assessment fosters wider improvement when representatives from across the educational community are involved.
- Assessment makes a difference when it illuminates questions that people really care about.
- Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.
- Through assessment, educators meet responsibilities to students and to the public.

Conceptions and views of educators lead to different assessment practices. Educators, who view assessment as a useful means of gathering data upon which to base decisions about learning and their own teaching, will attempt to make assessment as an integral part of teaching. Among other things, they will emphasis formative rather than summative assessment, frequently use informal means of assessment, encourage learners to take academic risks and reward academic effort as well as good results. They will also tend to take responsibility for the learning that takes place in their classrooms. Educators who view assessment primarily as a mechanism for making learners accountable for their learning will favor formal, summative, high-stakes assessment, and they may tend to absolve themselves from responsibility for

learner failure by blaming the learners' socio-economic conditions or lack of ability (Delandshere & Jones, 1999). Educators who view assessment as a necessary (but not necessarily important) part of educator and school accountability, they will favor summative or quasi-formative assessment practices that emphasis the generation of marks that can be reported to external agencies. Educators who view assessment as largely irrelevant they may probably avoid formative assessment and take a haphazard approach to summative assessment, thus creating the self-fulfilling prophecy that assessment is a waste of time (Stamp, 1987; Warren & Nisbet, 1999 cited on Vandeyar & Killen, 2007).

Tu (2009) wrote an article naming "Assessment of Mathematics Education in China". On which he lighted the assessment practice of mathematics on china. According to this article the main assessment types of Chinese mathematics education are school work-based assessment, selection-aimed promotion assessment and competition-based assistant assessment. Work-based assessment include: Routine Assessment, Period Assessment and Concluding Assessment. Selection-aimed promotion assessment include: Senior High School Entrance Examination (Mathematics), College entrance examination (Mathematics).

Khatiwada, Acharya and Limbu (2018) present a research report naming "An analysis of student assessment practices at school in Nepal". On which they lighted the assessment practice of mathematics on Nepal. With the aim of assess the present assessment practice in schools of Nepal, to identify barriers to the effective use of formative and classroom-based assessments in schools and to suggest the ways to improve the student assessment system and practice towards improving quality in education through formative and school-based assessment system. According to this research report the factors like parent-teachers interaction, participatory planning and

implementation, teamwork, visionary school administration, laborious teachers and students and effective monitoring and evaluation systems are playing the significant role to improve classroom-based student assessment practices. The leadership role of the Head teacher, effective, efficient, transparent and clear school policies are also equally important. Most of the school used various student assessment practices in the classroom such as class work, home work, project work, group work, question-answer, discussion, field visit and so on. But the use of the means of evaluation means the nature of the school, the diligence of the teacher, the opportunity to train, the student number, the school environment, the role of headmaster, the presence of parents, etc. Changes can be made to the assessment criteria only if the teacher has used the assessment methods in the classroom. It requires the responsible body has to be regular monitoring and evaluation.

Bol, Stephenson and Nunnery (1998), in a study including 893 teachers, were concerned with measuring the influences of teaching experience, grade level, and subject area on classroom assessment practices. They asked the participants about their frequency of use of various assessments, their preparation in developing and administering them, and their beliefs about how accurately various methods reflected student achievement. The results showed that teachers used observations and alternative assessments more than traditional methods and felt that these measures were more valid measures of student achievement. They also found that more experienced teachers used alternative methods of assessment more often than less experienced teachers (cited on Ghaicha, 2016).

Vandeyar & Killen (2007) carried out the research on "Educators' conceptions and practice of classroom assessment in post-apartheid South Africa" with the aim to find out relation between educators' conceptions and practice of classroom

assessment. The research was composed of three ethnographic case studies of Grade 4 educators in multilingual classrooms in South Africa. Data collected by the mix of sustained classroom observations, in-depth interviews and an analysis of key documents (including learner transcripts, educators' workbooks, marking schemes and diagnostic tools). Observed lessons were videotaped and interviews were recorded. Learner transcripts, educator workbooks, marking schemes and diagnostic tools were analyzed to provide additional insights into each educator's assessment practices. They found that educators' conceptions of assessment drove their practice. It seems that their limited conceptions of assessment (possibly due to their limited knowledge of assessment theory) resulted in the practices of assessment.

Levinson (2000) did the study about "Student Assessment in Eight Countries" naming Australia, Brazil, Canada, The Czech Republic, England, Germany, Israel and Japan with the aim of to find as many different kinds of assessment and educational systems as possible from as many continents as possible. He conducted e-mail interviews with educators from those countries and asked them about the facts and the effects of their testing systems. He interviewed a total of 10 educators three from Australia and one from each of the seven other countries. Researcher concluded that assessments in these countries vary in multiple ways. He mention that Brazil, England and Japan, conduct national-level tests, but each country does so for different reasons: Brazil for state-by-state comparisons and program evaluation, England for school accountability and Japan for college entry. The only examination that is common throughout the Czech Republic is conducted at the school level. The types of tests administered are equally diverse. Unlike the United States, which relies heavily on multiple-choice tests, six countries have written examinations (sometimes along with

other kinds). But The Czech Republic is unique among the eight countries in using only oral examinations.

Siarova, Sternadel, and Masidlauskaite (2017) prepare an analytic report with the name of "Assessment practices for 21st century learning: review of evidence" where they provide the meaningful classroom level assessment practices of 21st century and their examples those assessments systems are from both formative and summative. Classroom based summative assessments help evaluate the performance of a student at a certain time and his/her learning outcomes in comparison with other peers, whereas formative assessments emphasis in-depth questioning and extended dialogues, self and peer-assessment, as well as feedback and guidance on improvement. As they describe the classroom level assessment practices of 21st century are as below:

- Standardised assessments
  - Standardised tests
  - Multiple-choice assessments
  - Attitudinal questionnaires
- Non-standardised, performance-based assessment
  - Portfolio assessments
  - Holistic scoring rubrics
  - Assessment in project-based learning
- Peer and self-assessment
  - Self-assessment
  - Peer assessment
- The use of technology in classroom assessment
  - E-portfolios

- Tools for online feedback
- Learning analytics
- Intelligent (virtual) tutors
- Game-based assessment
- Augmented reality assessment

Susuwele-Banda (2005) carried out the research on "Classroom Assessment in Malawi: Teachers' Perceptions and Practices in Mathematics". The purpose of that study was to gain an understanding of the extent to which teachers use different classroom assessment methods and tools to understand and to support both the learning and teaching processes. He used questionnaire to establish the teachers' perceptions of classroom assessment in mathematics, a lesson observation protocol, and pre-lesson and post-lesson observation interview protocols as main sources of data collection. Document analysis by triangulating the information collected through observations and interviews. A total of six teachers (three male and three female) were drawn from two primary schools in Malawi. The research concludes that teachers' perceptions of classroom assessment have influence on their classroom assessment practices. Five of the six teachers perceived assessment as testing, and classroom assessment practices were not clearly embedded in their teaching.

According to The National Education System plan for (1971-76) it was managed for district level exam in class three, where evolution was based on previous class internal assessment as well. In fact, 50% weight was allotted for class one and class two and 25% was for internal assessment for class three. Whereas only 25% weight was class three for external evaluation. This also implies the emphasis on internal type of assessments such assessment practice emphasis by this plan. The National Education Commission Reports, (1992) stressed the need to introduce a

comprehensive and regular evaluation scheme for proper judgment of students learning and for quality improvement in education.

National Curriculum Framework for School Education in Nepal (2007) stressed on Formative and summative assessment system for assess the students. Student assessment must be by both internal and external assessment using formal as well as informal testing devices at all levels and grades. Assessment tools such as, class work, project work, community work, unit test, achievement test, trimester, observation, formative and innovative work be applied. Summative assessment be used for certification of students' achievement and grade promotion as well as it emphasis on continuous assessment system. It also addressed that different assessment practice can be applied for students with special need.

Research Gap

If we look over on the previous researches we can see that there are many researches held about impact of continuous assessment system on student achievement, perception of teachers' towards assessment, perception of students' towards assessment, perception of stake holders' towards assessment but we can get rare researches which are related to study about student assessment practice. Since student assessment practice play the important role on their mathematics achievement but we can feel that this fact has been rarely study by previous researcher. Since various researches about effect or impact of continues assessment on achievement of students, perceptions of stakeholders' towards assessment has been done but rare research about students' assessment practice has been done but is one of most important sector to be study to fill that gap on research field researcher study about an exploration of students assessment practice in mathematics at basic level.

Theoretical Literature

There is no single theory of learning that can be applied to all students. Indeed, the literature of the past century has yielded a variety of models, sets of assumptions and principles, theories, and explanations that make up the students learning knowledge base. The more those educators are familiar with this knowledge base, the more effective their practice can be, and the more responsive their practice can be to the needs of learners.

There are so many theories which can be used to understand the learning process. The theoretical discussion is needed for the interaction of the finding of the study. Many theories about the learning and development of children such as cognitive, behaviorist, humanist, social constructivism of which constructivism is one of the theories to analyze and interpret the data of mathematics or resolve the problem. To complete any research we have to base on various theories so this study will be base on theories like constructivism, Theory of fear and phobia and theory of multiple intelligences.

Constructivism

Constructivism is basically a theory based on observation and scientific study about how people learn about. It says that people construct their own understanding and knowledge of the world through experiencing thing and reflecting on that experience. When we encounter something new, we have to reconcile it with our previous idea and experience may be changing what we believe or may be discarding the new information as irrelevant. In any case, we are active creator of our own knowledge. In the classroom, the constructivist view of learning can be pointed out toward a number of different teaching practices. In the most general sense it usually means encourage student to used active technique to create more knowledge and then

to reflect and talk about they are doing and had their understanding is changing. The teacher makes sure understanding of the student pre-existing concept; guide the activity to address them and the build on them. Constructivist transforms the student from passive recipient of information to active participation in the learning process. Always guided by teacher, student construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the text book.

Constructivism is a theory of knowledge (epistemology) work of Jean Piaget (1896-1980) argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. During infancy, it is an interaction between their experiences and their reflexes or behavior-patterns. Social constructivism develop by Lev Vygotsky (1896-1934) argues that every child learns from society from social contact with home, family and universe. According to them, knowledge can be constructed from society. This kind of thought is given by constructivism. It focuses on real life learning environment, social interaction and use of complex idea share with others outside of classroom easily. Constructivism transforms the students from passive receipting of information to active participant in teaching process. Constructivism based on three axioms that are as follows.

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

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences.

Theory of Fear and Phobia

Two major theories that had a significant impact on the scientific investigation of fear and phobia namely psychoanalysis and behaviorism, were initiated by Freud (1909) and Watson and Rayner (1920). While in the beginning of the last century the dispute regarding the cause of fear and phobia was limited to psychoanalysis and behaviorism, today this field of research is characterized by considerable theoretical confusion. This review will explore whether these theories are capable of integrating the pertinent, the Rational-Choice Theory of Neurosis (Rofe, 2010; Y. Rofe & Rofe, 2013), was suggested as the best explanation of bizarre phobia (e.g., chocolate phobia or panic disorder). Essentially, phobias do not differ from other types of symptom formations, as the only thing all phobias have in common is the defensive use of avoidance. They share nothing else, either dynamically or genetically, which distinguishes them from any other class of symptoms. The Rational-Choice Theory of Neurosis (RCTN) is a revised version of Psycho-bizarreness Theory. The basic assumption of this theory is that individuals are likely to adopt neurotic disorders, such as panic disorder, agoraphobia, OCD and conversion disorder, when confronted with an intolerable level of stress and other options, such as suicide, drug abuse, and antisocial behaviors, are unavailable or too costly.

Theory of Multiple Intelligences

The theory of multiple intelligences, developed by psychologist Howard Gardner in the late 1970s and early 1980s, posits that individuals possess eight or more relatively autonomous intelligences. Individuals draw on these intelligences, individually and corporately, to create products and solve problems that are relevant to the societies in which they live (Gardner, 1983, 1993, 1999). The eight identified intelligences include linguistic intelligence, logical-mathematical intelligence, spatial

intelligence, musical intelligence, bodily-kinesthetic intelligence, naturalistic intelligence, interpersonal intelligence, and intrapersonal intelligence (Gardner, 1999).

According to Gardner's analysis, only two intelligences – linguistic and logical mathematical have been valued and tested for in modern secular schools; it is useful to think of that language-logic combination as "academic" or "scholarly intelligence."

Multiple intelligence theory in contrast, asserts that an individual, who demonstrate a particular aptitude in one intelligence will not necessarily demonstrate a comparable aptitude in other intelligence.

Conceptual Framework

This section deals about the conceptual framework for the research. A conceptual framework is the representation, either graphically or narrative form, of the main concept or variable and the relationship of the independent variable with dependent variable. This conceptual framework was established on the basis of research topic areas to fulfill the objectives of theoretical framework for the study of an exploration of students' assessment practice in mathematics at basic level. This study is based on this conceptual framework by linking various factors that are responsive to student assessment practice at the in mathematics at basic level. The main components or focus is located in the center. Related theories are placed on the left and methodological approaches on the right, which can be applied to fulfill the research purpose. If there will well manage of assessment practice, method and theories possible outcome will be good practice of assessment system which is also addressed on the right side of the figure mention below. As National curriculum framework: NCF (2007) address tools of assessment on school level on the basis of those assessments' tools researchers observed as intended assessment practice by NCF

in real classroom those assessment practices are applied or not. It is related on the learning theory of constructivism, theory of fear and phobia, theory of multiple intelligence and the response given by respondents the researcher conceptualized this study done as shown in figure which was made on the basis of NCF 2007 and research report submitted by molung foundation koteshwar Kathmandu.

Figure: 1 Conceptual framework

Chapter III

METHODS AND PROCEDURES

Research method and process are the scientific and technological process, which determine how the research is complete systematically. We included mixed as the research paradigm, ontology, epistemology and axiology as the paradigmatic consideration. We have mentioned transferability, credibility, and praxis as quality standard in this research. Methods and procedures are very crucial elements of the research study. If one follows appropriate methodology and procedures the researcher will obtain the objective very easily. Method and procedures help the researcher to go in a right direction in his/her research study.

Design of the Study

Research design is a plan or proposal to conduct research which involves the intersection/ interconnection of philosophy, strategies of inquiry, and specific methods (Creswell, 2013). Furthermore, research design in this task is the specific plan that is based on the research problem and research objectives revealing expected finding/data types, and is a roadmap towards the research field. Strategically, this research was based on qualitative design with case study approach. As a method, it focuses on collecting, analyzing, and qualitative data in a single study or series of studies. With the inclusion of multiple methods of data and multiple forms of analysis, the complexity of these design calls for more explicit procedures (Creswell, 2007). This design of research encourages the researcher to triangulate the information collected from the multi-methods and multi-approaches for ensuring the reality and acceptability of the research findings. The researchers try to explore the assessment practice in school level. The intended research was descriptive case study research.

Case study is an intensive analysis of an individual unit (such as a person or community) stressing developmental factors in relation to environment (Merriam-Webster Dictionary). P. V. Young state "A comprehensive study of a social unit –be that unit person, a group, a social institution, a district or a community is called a case study."

Case study research excels at bringing us to an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. Case studies emphasize detailed contextual analysis of a limited number of event or conditions and their relationships. Researchers have used the case study research method for many years across a variety of disciplines. Social scientists, in particular, have made wide use of this qualitative research method to examine contemporary real life situations and provide the basis for the application of ideas and extension of methods (Yin, 1984 as cited on Timalsena, 2015).

Research Site

The sample schools selected for this study purpose is from Kanchan gaun palika of Rupandehi district. The two sample case school including Institutional and government schools each was selected purposively for the research purpose namely Rudrapur Ma.Vi. for government and Evergreen English Boarding school for Institutional school.

Sample

To fulfill the objectives of this study the researcher was select one public schools and one private school out of twenty-five basic level school of kanchan gaun palika of Rupandehi district. The respondents of this case study were students, mathematics teacher of related students, head teacher and resource person. From the two samples school two-two mathematics teacher from each, Head teacher of each

school and one resource person were select whose interview was taken by me. Five students from each school were selected purposively for focus group discussion and done one\one focus group discussions with each school's students and observe the each mathematics teachers' classes for one week.

Sampling Process

The respondents of this case study were students, mathematics teacher of related students, head teacher and resource person and these case respondents were selected purposively.

Tools for Data Collection

Both primary and secondary data/information sources are used to collect information. The documents and records related to the assessment of students' learning will be collected and analyzed. The main data source of this research is primary. To collect information from the primary sources, methods and procedure are required to be specified, validated and revised through discussion. Following are the methods specified and determined to collect information from the primary sources.

Interview:-

The interview is a flexible tool for data collection, enabling multi-sensory channels to be used: verbal, non-verbal, spoken and heard (Cohen, Manion & Morrison, 2008). An interview is a purposive interaction between researcher and informant**.** The interview schedule is used to collect information from resource person, head teachers and teachers. To know the current students assessment practice and to find out challenges to effective use of formative assessment I had used interview.

Focus Group Discussion:-

Focus group discussion is a popularly used method in educational research**.** Willington (2006) states that a focus group is a small group made up of perhaps six to ten individuals with certain common features or characteristics, with whom a discussion can be focused onto a given issue or topic. Focus group discussion is more than a group interview which is nondirective. In this method of data collection process, the group participants are actively involved in the group discussion on the topic/question given by researcher (Cohen, Manion & Morrison, 2008). The discussion produces the holistic and explorative information which is very useful to the researcher. In this research, one Focus Group Discussion with a group of students will be conducted in each case of the study. The focus groups of students were formed heterogeneously in terms of sex, ethnicity and learning ability. To know how the students were assign I had done FGD with students.

Documents, Records and Unobtrusive Measures:-

The school office and record system is one of the rich sources of information. For the researcher, it is deemed as a reservoir of information or data. It was used to study evidence and record related to assessments. Assessment tools and records related to assessment used to assess the students' learning were collected, review and analyzed. Question papers, marks ledgers, mark sheets, portfolio files, CAS records were the objective and real evidences to elicit the information. Action research reports conducted by the school teachers or any other persons or agencies were collected from the sample schools.

Observation:-

Observation was being applied to the study of student assessment practice at basic level in which included assessment of existing assessment practices at basic

level. For this research each mathematics teachers' classes were observed for one week and prepare observation note. I had done it to find out the current students assessment practice and challenges to use formative assessment system while observed teachers' classes I had made passive participation.

Data Collection Procedures

I were visit to the fields with the tools belonged to the aforementioned data collection methods. An intensive, comprehensive and wide nature of data or information collection process were occur in the field within the schools and outside with other concern people. The data collection has been performed by researchers who are skilled, experienced and competent in the field researches. Data were collected from four mathematics teacher, two head teacher and one resource person with the help of interview prepare by researcher. Primary and secondary data were collected by researcher from related document and one-one group discussion was organize with two focus group of selected sample school one from each which were made by researcher including five students on each. Each mathematics teachers' classes were observed for one week. Direct contact or face to face contact and interaction was take place with the respondents in the process of data collection. Live data/information was recorded into the data collection tools and other devices i.e. mobile, camera etc. if needed.

Data Analysis and Interpretation

The collected data from the participants were analyzed using descriptive approach. At first the collected information were categorized according to the category of the respondents and then different codes has been given to the collected information from the interview and observation note. These codes were gathering according to their similarities and were given the title for them which are known as

theme. Those themes were analyzed and interpreted by using the conceptual framework the researcher developed in literature review. Cross-match and triangulation were adopted to validate the information and hence the conclusions were made.

Chapter IV

ANALYSIS & INTERPRETATION OF DATA

This chapter is mainly concerned with the analysis and interpretation of the data. The data collected from the informants were analyzed and interpreted to find out the student assessment practice in mathematics at basic level. The researcher had observed the student assessment practice, interaction with teacher, head teacher, recourse person and student in this research. The researcher had interviewed with the head teacher, subject teacher and recourse person make focus group discussion with students also done school document study to collect required data. The data of the study are analyzed under two section first section as current practice of students assessment and second section as challenge to effective use of formative assessment practice.

Current Practice of Student assessment

Figure: 2 Policies of student assessment practices in the school of Nepal

Level	Purpose of Assessment	Assessment technique
Grade I-VIII	Instructional Improvement	Formative assessment (Unit test, classroom test, participation, attendance, home assignment, life skills, project work)
	Promotion	Summative assessment
Grade IX-X	Instructional Improvement	Formative assessment (Unit test, classroom test, participation, attendance, home assignment, life skills, project work)
	Promotion	Summative assessment
Qualifying	SLC/SEE	Summative

(Source: NCF, 2007)

Table shows that NCF (2007) model regarding student assessment practices for deciding, collecting and making judgments relating to the goals of the learning outcomes. The National Curriculum Framework has added a new dimension to using the student assessment practices. Indeed, formative and summative assessment as two different formats has still attracted educators' attention in the current literature (Wiliam & Thompson, 2008 and Harlen, 2006). These authors suggest that the purpose of formative assessment is to identify the level of student learning achievement in the classroom. It supports remedial teaching for the weak student through classroom work, homework, project work, monthly test, unit test and extra-curricular activities (cited on Khatiwada, Acharya and Limbu, 2018).

In this section researcher reveals current practice of students' assessment in basic level in school of Nepal under the following thematic areas:

Summative assessment

Summative assessments are used to evaluate student learning, skill acquisition, and academic achievement at the conclusion of a defined instructional period—typically at the end of a project, unit, course, semester, program, or school year. On this assessment the tests, assignments, or projects are used to determine whether students have learned what they were expected to learn. It is widely used in school level to report test results. Summative assessment assists the school in tracking the progress of individual or groups through formal testing which is undertaken by the school. Summative assessments are given at the conclusion of a specific instructional period, and therefore they are generally evaluative, rather than diagnostic—i.e., they are more appropriately used to determine learning progress and achievement, evaluate the effectiveness of educational programs, measure progress toward improvement goals, or make course-placement decisions, among other possible applications.

This evaluation is useful to determine pass or fails, to inform parent the level of student's progress, and to upgrade the class for further study. This information is used in two ways: first to inform the teachers about their teaching and what needs to be taught next and second, making a judgment about how well students have learned the knowledge or skill being taught.

> *"School used to take terminal exam, half yearly exam and final exam I check the copy of students on these exam and provide marks. At last we add those all marks of terminal half yearly and final term exam that mark decide whether they are pass on subject or not."* (Teachers View)

> *"Mainly the quarterly exams, semi-annual and annual exams have been widely practiced to measure student progress in our school. But, we have not been taken formative assessment as an integral part of teaching activities."* (Head Teachers View)

> *"Mostly we evaluated by terminal exams but sometimes to know whatever taught by our teacher we understands that portion or not he used to take test for that portion only."* (Students View)

From above information I came to know that summative assessment has become an integral part of teaching because it is the only means of student evaluation as compared to formative assessment. It is mainly due to summative assessment is still deeply rooted in schools where a formative assessment system is less effective.

Formative Assessment

Formative assessments take place during a learning activity to provide the instructor with information regarding how well the learning objectives of a given

learning activity are being met. In addition, formative assessment is particularly effective for students who have not done well in school, narrowing the gap between low and high achievers while raising overall achievement. This assessment is considered as an integral part of teaching-learning activities in the classroom. This evaluation provides information about how the students' achievement levels are growing in teaching activities. It provides ongoing feedback to improve learning and help the student with remedial teaching. Most instructors intuitively use questioning as a method of formative assessment but in large lecture classes not every student can be questioned because of time constraints. Formative assessment is also useful in virtually all learning activities such as preparing oral and written reports, fieldwork and as projects and case studies progress. In The opinion of Head teachers, teachers, and student's perception formative assessments which they had followed were as follows.

Home Work

Homework, or a homework assignment, is a set of tasks assigned to students by their teachers to be completed outside the class. Common homework assignments may include required reading, a writing or typing project, mathematical exercises to be completed, information to be reviewed before a test, or other skills to be practiced. The effect of homework is debated. Generally speaking, homework does not improve academic performance among children and may improve academic skills among older students, especially lower-achieving students. Homework also creates stress for students and their parents and reduces the amount of time that students could spend outdoors, exercising, playing, working, sleeping, or in other activities.

The sample school considered that homework is vital, as a part of establishing teacher expectations of student, to keep track of homework. According to the

teachers, they provide homework with lessons, checked in time and give feedback. On the other hand there are other teachers not providing regular homework. They said that there are a large number of students in the classroom because they do not have the time to give regular homework and daily checking.

Head teacher from Institutional school stated that:

> *"In our schools, provide homework to student is compulsory every day. The teacher daily checks the homework of every student. Up to class eight we are making compulsory diary for each student parents can easily see which subject homework their children get from school. In our school either it may written or oral providing homework is compulsory and we are applying this. I watched monitor student daily diary and notebook. In our schools, most of the teachers have routinely followed this policy."*

Head teacher from government school stated that:

> *"Being maximum number of student it's very difficult to checked homework of each student regularly so we provide homework to student but checked randomly. That teacher who stays leave has also increased the extra load for the class arrangement. The teacher does not have the time for checking homework regularly. So we make a plan to check homework randomly and to discuss the exercise as well from the lesson."*

Constructivism profound by Jean Piaget (1896-1980) suggest that students can learn from learning by doing they learn from practice and mathematics is such subject which we learn from practice so provide homework to student is necessary.

Student from Institutional school told that:

> *"Our mathematics teacher provide regular homework if we make any mistake he explain us that why our mistake and he teach again about those problems which we make mistake."*

Student from government school told that:

> *"Our mathematics teacher provides homework but he checked randomly if we done or not done homework he doesn't care about it but if we ask about problem which we don't understand he teaches us again."*

Above information show that compared to the government school, institutional schooling is found to provide regular homework and checked it while I observed classes I found that in institutional school provide homework and checked homework was regular process but in government school teachers do it randomly.

Class Work

The part of a student's work that is done in class. The work done in the classroom by the students and teacher jointly is known as class work. It integrates instruction aligned through the written or oral work done in a classroom by a student. It makes confident that the instructional strategies are sound, and that the program will contribute to improved student academic achievement. It creates individualized learning paths that modify the instruction to match what each student needs. The classroom activities and student assessment practices can be implemented with a mixture of ways.

A teacher from the Institutional school states that:

> *"I always involved in every task of student assessment along the classroom teaching such as daily class work and providing feedback for an individual student to improve their learning achievement."*

A teacher from the government school states that:

"We have to complete course in time if we provide class work student consume more time for it so it's difficult to complete course in time so I rarely give class work for student."

Student from Institutional school told that:

"Our mathematics teacher provides regular class work to check whether whatever he taught we understand or not if some student unable to complete class work he told to student who complete class work for help those student."

Social constructivism profound by Lev Vygotsky (1896-1934) emphasis on scaffolding which is the process where those people who known about the knowledge help for them who were unknown about that knowledge which help to weak student for understand problem and solve them. In class talent student help to weak student to complete class work definitely it bring good achievement in mathematics.

Student from government school told that:

"Our mathematics teacher provides class work sometimes but he checked only those four-five students who complete first."

From above information it is clear that in compare to government school institutional school regularly provide class work and check it. From observation of classes I also gat same result as institutional school regularly provide class work and checked it regularly compare to government school.

Project Work

A project may be a temporary (rather than permanent) social system (work system), possibly constituted by teams (within or across organizations) to accomplish particular tasks under time constraints. A project may be a part of wider management or an ad hoc structure. In this method, the student applies their skills, knowledge, and

strategies for different content areas. They do in-depth investigations into data collection, data analysis, and draw conclusions. It helps them to become experts in a particular area of the project topic. Through the project work, students not only learn new concepts and content, but they have also developed the competencies for future learning. They develop their ability to formulate research questions, carry out research both independently and collaboratively.

> *"It is very difficult to make project work for student in mathematics so we have not practiced project work till now."* (Teachers View)

> *"We get class work, home work but project work we did not did till now in mathematics."* (Students View)

From above statement I came to know that mathematics teacher doesn't provide any project in mathematics and till the period of class observation I did not seen that any mathematics teacher provide project work.

Different Tests

Unit test, weekly test and the monthly tests are playing significant roles in improving teaching learning activities. These tests in the classroom give an individual some indication of actual achievement and identify trends among groups. The information compiled from standardized tests tells the class how their students are doing in comparison to students in similar situations around the school or subjects. From this information, the teacher can make decisions about the delivery of his/her educational program. In the classroom, this type of assessments can inform the teacher about the progress of students as a lesson proceeds and of their achievement when the instruction has concluded.

Head teacher from Institutional school said that:

> *"Written tests were mostly practiced in terminal, half-yearly and annual basis tests to upgrade the student. Other test items were also employing along with written tests such as oral test, unit test and monthly test and practical exam. Various types of test are also has important as the nature of subjects such as class work is more effective in mathematics and project work in social studies."*

A Resource Person told that:

> *"Due to applied of lesson, Unit, Weekly, Monthly tests and additional classes the result of boarding school improving day by day in each classes and the numbers of students from the boarding schools have been increasing year-by-year on comparison of boarding school government school far back to implementation of those tests and additional classes."*

Theory of fear and phobia by Freud (1909) suggest that panic disorder can be reduced by practice on same thing by which they are panic. From above information I came o know that some student seems to be panic from exam for them tests taking regularly make realize exam are also like class test which realization help them to get good result in mathematics.

Continuous Assessment System

Continuous assessment system is one of the examples of formative assessment. Continuous assessment is a way of assessing pupils using a set of learning outcome indicators. It helps in developing students' logical and creative thinking abilities. Students work in a group and individually, explore and investigation of the subject matters and they construct, compare and justify the concept. It refers to the daily process by which teachers gather information about learners' progress in achieving the

curriculum learning targets. In Nepal, the continuous assessment system is an approach that is used to capture the full range of a learners' performance after the recommendations of the Basic Primary Education Program. It is continuous because it occurs regularly at different times as a part of instruction. The underlying principle is that at all times the teacher need to know, for each of his/her students in the class, how well they have understood the ideas being taught. It helps teachers to understand their learners, plan and monitor instruction and establish classroom culture. It is adopted concerning to assess learners' achievement in cognitive, affective and psychomotor domains. Teachers can then use the information for formative purpose as an integral part of their teaching and for summative purpose as well.

A resource Person said that:

> *"Continuous assessment system (CAS) is both conceptually and practically very good. In this assessment system teachers and students are engaged in their work. The students found more interested to learn different concepts by using different methods such as daily and weekly observation, extra activities, project work, homework working with a group, presentation and interacting with student and teacher. But teachers are found to have more time to prepare evaluation records, make it difficult to fill the form, and lack of additional skills to work due to which teacher were uninterested to apply CAS."*

Theory of multiple intelligences developed by Howard Gardner (1970-1980) argues that each individual had different intelligences and they learn knowledge according to their own intelligences. In my view different methods help to gain knowledge for student with different intelligences. From above information I came to

know that those schools which apply continuous assessment system with different method on those schools student in the classroom securing good results. Each year, the student number is growing in these schools. The interest of the parents also increasing on those schools in the other hand the schools which have not yet reform assessment system their examination results are very poor and the parents are almost not interested in these schools.

Moreover I had conducted FGD with students on 2076 mangsir twenty and by observing classes of mathematics teachers till fifteen mangsir to twenty mangsir 2076 I get findings as in compared to the government school institutional schooling is found to provide regular homework, class work and checked it. Continuous assessment system helped students to securing good results in mathematics.

FGD with students:

(Photo: 1)

Challenge to Use of Formative Assessment in Mathematics

In the context of Nepal in the field of evaluation paper-pencil test take place from many decade it is very difficult to change any establish system by another system. While tried to applying formative assessment system many problem or

challenges were occur in this section challenge to effective use of formative assessment in mathematics were discuss under the following thematic areas:

Time Consuming

Formative assessment is a continuous process which is managed in the classroom teaching-learning process.

One of the teachers from government school told that:

> *"To conduct various work such as class work, oral test, unit test I need more time. It requires extra time and energy we have to consume more time without any extra pay and it also make difficult to complete course in time."*

Teacher from institutional school said that:

> *"We have pressure to complete course in time also we must have to give homework, class work and checked regularly, and have to take unit test, weekly test, monthly test which take our lots of time without any extra pay we have to do it. Due to which it is difficult to complete course in time too."*

From above statements I came to conclude that formative assessment takes more time for the teacher to do different activities. But the facilities of the teachers are same as previous. As it consumes more time without extra payment, applying this assessment practice has become a challenge. From observing classes of mathematics teachers I get that they interested to complete course instead of improve students' knowledge.

Lack of Training

Training contributes to promote positive relationships between teachers, student, and parents. There are various ways to develop high learning achievement in school. Self-evaluation, quality management, and reviews are internally driving factors for quality education.

In this topic head teacher from government school state that:

> *"Formative assessment system is time consuming and needs a lot of resources. And from those teachers having no training it is difficult to conduct. Those teachers who involved in TPD are unable to implement the things they learned in TPD."*

Head teacher from institutional school state that:

> *"In our school all of teacher without any training about assessment ways of students, they don't know how to manage time and what ways to assess students by formative assessment."*

From above information it is clear that without any training about assess student it is very difficult to apply formative assessment in teaching learning process.

Classroom Diversity

There are different type of students in class they are differ by cast, religion, geographical place, culture, learning ability etc teaching learning process in such diversity itself a challenge.

Teacher from government school said that:

> *"In my class some student are very good in mathematics and some are almost zero even they don't know how to add some learn very quick some take more time. While I provide class work it was meaningless to give same work to all students."*

From this information I came to know that learning ability of student create problem to apply formative assessment theory of multiple intelligence developed by Howard Gardner (1970-1980) also argue according to student intelligence student learn and it is very difficult to apply different assessment practice in same class within same time.

Lack of Appropriate Planning

It is very important for teachers to recognize the implication of any planning for work in the classroom. Teacher must have to make appropriate planning how to carry out the assessment practices to assess the students' learning achievement. Without appropriate planning, evaluation of the students cannot be done in an appropriate manner, i.e. when to give project work, when to submit it, when to take the unit test, monthly test, how to evaluate the student home assignment etc.

Head teacher from government school state that:

"Teacher used to give project work on same time which create problem to time manage for student, Students make various pretence and don't attempt their unit test these are the some problems we face while applying formative assessment in our school."

The resource persons had claimed that:

"When it's the time to check answer-book, publish results and interact to parents the examination of terminal exams, half-yearly exams and the annual exams as compared to institutional schools community school do not appropriately plan. As a result, very few teachers use different types of classroom-based assessment practices such as homework, classroom work, and group work."

Head teacher from institutional school state that:

"Our school emphasized that every teacher should go to class at the time, stay at the full time in the class, classroom activities are divided into the feedback (5 minute), presentation (20 minute), evaluation (10 minute) and review the lesson (5 minute). Each teacher should be involved in classroom assessment

practices such as homework, group work, class work, question-answer, group discussion, student-teacher interactions, class test, monthly test and unit test."

From statement I came to know that without well plan assessment cannot be fruitful in compare to government school institutional school make well plan and apply it still lack of appropriate planning is one of challenge to apply formative assessment.

Students' Absent Rate

Students are integral part of assessment process each and every assessment conduct for improve students' achievement. If student could not take part on assessment such assessment has no meaning. In compare to institutional school students absent rate is high on government school.

Head teacher from government school state that:

"In our school irregularity of student is maximum students from poor family so they used to stay home to complete household work. If we informed student tomorrow is your test half of the student was absent next day, if some teacher going to asked them maximum student bunk that period or they pretend like they are sick.'

From this statement I came to know that students are careless about their study they didn't consider formative assessment as test so they escape those test bunk classes which make difficult to apply formative assessment in class for teacher. So it clearly seems that students absent rate create challenge to effective apply of formative assessment.

CHAPTER V

FINDINGS, CONCLUSIONS AND IMPLICATIONS

In this chapter I have presented the findings, conclusions of the research and implications of the study on the basis of presentation, analysis and interpretation of the collected data. The following conclusions of the study have been drawn on the basis of the analyzed data. The first section of this chapter presents the summary of the research the second section present its finding the third section present to conclusion and the last section present recommendations base on the finding of the study. I have presented findings, conclusion implications in the separate headings.

Findings

On the basis of analysis of the data and interpretation of the results the findings of this study indicate that summative assessment has been widely practiced to measure student progress in school as compared to formative assessment. In compared to the government school institutional schooling is found to provide regular homework, class work and checked it. Due to large number of students in government school homework and class work were provide to student but has not checked regularly. School which applied formative assessment system on that school result was improved and interest of parents and students also increasing day by day. Continuous assessment system helped students to securing good results in mathematics. Time consuming, without professional training very difficult to apply formative assessment, classroom diversity, students absents rate, lack of co-ordinance between teachers, lack of appropriate planning were the main challenges to implements formative assessment system. Whereas providing class work, homework and checked them regularly, provide training to the teacher about students assess

process, schools' proper planning about students assessment were the best ways to implementing formative assessment system.

Conclusions

From the finding of the study I made the conclusion that summative assessment has become an integral part of teaching because it is the only means of student evaluation as compared to formative assessment. Assessment policy has been developed by government with the purpose of addressing assessment related concerns but in practice it seems that practice of assessment in school is far differ as mention in policies continuous Assessment has not been focused by school to assess students' achievement. Due to time consuming, without professional training very difficult to apply formative assessment, students absents rate, lack of co-ordinance between teachers, classroom diversity and lack of appropriate planning to apply formative assessment system were challenges to apply formative assessment system to address these challenges must be provides the appropriate teachers' training for assessing the students performance, fully applying continuous assessment system to assess the students learning, providing appropriate references material and must make assessment practices students and teachers friendly, which ultimately improve quality of education.

Implications

After conducting this research the investigator found some finding, there are several areas where the investigator would like suggest some implications. After the findings and the conclusions of the study, the implications of the study has been made on three sub-headings i.e. policy related, practice related and further research related. Implications under these three sub-headings represented as followings.

Policy

The policies are the foremost things to make any task successful. As they guide us thoroughly to have a desirable achievements in any field. In the field of assessment also the government formulates the policy. Following implications to be consider at the policy level.

- Most of the students respondent that continuous assessment system is very helpful in learning. So there should be the policy to implement continuous assessment system strongly and compulsory in teaching and learning process at least up to school level.
- Some students seems very good in class activities but in exam their results seems very poor and due to summative assessment used to pass and fail to students those good students can't upgrade in next classes so to reduce these problem formative assessment also should consider to upgrade students.
- Education planners, syllabus designer should design such a course which can be assigning through formative assessment system.
- Due to time consuming, without professional training it is very difficult to apply formative assessment system, so for every teacher either government or institutional schools' should provide training related to formative assessment system.

Practice

From the findings of the study it is clear that there are some issues in the students' assessment practice. Following implications were mention in the practice field.

- School which applied formative assessment system on that schools result was improved and interest of parents and students also increasing day by day so

formative assessment should be widely practiced to measure student progress in school as compared to summative assessment.

- This research assists teachers, experts, curriculum planners, policymakers to understand the existing situation and practices of assessment systems.
- It helps to engage teachers' and students according to the norms and values of formative assessment.
- This research is applicable for encouraging teachers and students' regularity and equally applicable for maintaining teachers' competency.

Further Research

Research is tough, challenging and rigorous activity. No work is final and no research is complete. New approaches methods and techniques of study and presentation of the data should be innovated in research. The researcher cannot go against the idea alone. The implications for further research related are as follows:

- This study only talks about the perspectives of the students' assessment practice in mathematics at basic level. So further research can be carried out on the students' assessment practice in mathematics at school/ college level.
- This study only corporate the small case study design two school of kanchan gaun palika located at rupandehi district. So the further research can be carried out at other districts too by using others various designs.

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APPENDIX I

Interview guideline with mathematics teacher

- What types of assessment do you use in your school?
- How often do you use CAS to your students and how? If not why?
- How do you apply formative assessment in your subject?
- How do you apply summative assessment in your subject?
- How many types of formative assessment do you use in your students, what are they and how do you apply?
- Can you use internal and external assessment for evaluating? If you use, for what purpose? If not why?
- Are there any challenges you face to apply formative assessment in your school?
- If you are not using formative assessment as mentioned in curriculum, why?
- Have you got any training to improve formative assessment system? If yes, what types of training?
- How is your school planning for improving formative assessment?
- What is your assessment of the different learning styles of your students?

APPENDIX II

Interview guideline with the head teacher

1. What is the overall achievement level of your school?
2. What types of activities do your teachers conduct for your evaluation/assessment for students?
3. Are there any challenges to apply formative assessment in your school?
4. Have you got any training to improve formative assessment system?
5. How your school is planning for improving formative assessment?

APPENDIX III

FGD guideline with students

1. What types of activities do your teachers conduct for your evaluation/assessment?
2. How are your teacher evaluating in day to day teaching activities?

3. Is there regular attendance in your class?
4. Do your teachers conduct classroom discussion on any subjects or not? If yes, ho
5. Do your teachers conduct project work on mathematics or not? If yes, how?
6. Do your teachers conduct weekly unit and monthly test?

APPENDIX IV

Interview guideline with resource person

- Are you satisfied from the current students' assessment practice applied by schools?
- How formative assessments improve learning of students? Do you suggest any ways to improve existing assessment system?
- Are there any differences between assessment practice applied by public and private school?
- How continuous assessment system play positive role to improve students result?