Teachers` Perceptions and Practices of Continuous Assessment in Mathematics Class in Dera woreda General Secondary and Preparatory Schools

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This is to certify the thesis prepared by Tefera Gashaw entitled: *Teachers Perceptions and Practices of Continuous Assessment in Mathematics class* and submitted in Partial Fulfillment of the Requirements for the Degree of Master of Education in Mathematics complies with the regulations of the University and meets the accepted standards with respect to originality and quality

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List of Abbreviations

NCTM	National Council of Teachers of Mathematics
MOE	Ministry Of Education
AAED	Addis Ababa Academic for Educational Development
STM	Science, Technology and Mathematics
ICDR	Institute of Curriculum Development Research
TESO	Teacher Education System Over hall
STD	Standard deviation of the variable
TDP	Teacher Development Program
TGE	Transitional Government of Ethiopia

ABSTRACT

Teachers` Perceptions and Practices of Continuous Assessment in Mathematics

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The study examined teachers` perceptions and practices of continuous assessment in mathematics class. The participants of the study were 20 teachers, 152 students, and 4 school principals in Cheka ganet General Secondary, Salaysh General Secondary, Bitotesa 17 General Secondary and Bitotesa 17 preparatory schools in North Shoa zone Dera Woreda. Different instruments that include Questionnaires, Interviews, Observations and Document analysis were used to gather data. Teachers perception of continuous assessment with respect to age, qualification, teaching experience and teaching load were analyze using descriptive statistics and one way ANOVA from this finding there is no statistically significance difference for age, Educational qualification, and teaching experience about perception of continuous assessment. The mann-Whitney U test was applied. Here, compare and contrast was done in relation to different assessment tools used by the teachers. Based on these findings, it was concluded that the mathematics teachers were not used different assessment method and techniques of continuous assessment in their Schools. Finally, it was recommended that the principals and education office should frequently organize workshop and seminars for serving teachers on the perception and practice of continuous assessment in their schools.

CHAPTER ONE

INTRODUCTION

1.1 Back ground of the problem

Education is the vital role for development. In history, those who have developed in their economy, they gave prominent emphasis for education, In line with this; education and development never separate for each other, Together with this, quality education also go in line with assessment. Ethiopia Education and training policy :(1994) also stated the main objective of educational system is to cultivate the individual capacity for problem-solving and adaptability to the environment by developing the necessary knowledge, ability and attitude.

Mathematics is the language of science. To succeed in science, students must use mathematics. Thus high quality science depends on high quality mathematics**.** NCTM, (2002) Mathematics curriculum should include the continued development of language and symbolism to communicate mathematical ideas.

Assessment is very vital helping the learners become effective. It is a collection of different strategies which are believed to make students become competent in their learning. According to different scholars in the field of education, without assessment it is difficult to identify or pin point the students' achievements or their failure to achieve their learning. In light of this, Airasian (1991), assessment is the process of collecting, interpreting and synthesizing information to help teachers understand their students, plan and monitor instructions and establish a conducive classroom atmosphere. In the same view, Arends,R.(1997). Pointed out that assessment is the process of gathering and synthesizing information to make decisions about learners and instructions.

The trends of using tests and final examinations at the end of the semester as mode of assessment does not by itself prove the learners` excellence in different aspect. In this respect, Mulu(2005), suggested that a onetime final examinations or mid examination does not bring a complete or true picture of students` performance including the higher order thinking skills that is to say, examinations cannot measure all that the student learns because their effectiveness is limited to

assess the entire complex learning out comes. To overcome this, it will be much more helpful if the assessment is employed on a continuous basis using different strategies.

Now a day, scholars believe that students can learn best and become effective if continuous assessment is effectively implemented in the teaching learning process. That is why advanced nation such as England, Spain, Australia and others are applying continuous assessment partially or wholly in their education system (Heaton, 1990) Similarly, The Ethiopian Education and training policy(1994:9) states ‘’continuous assessment in academic practical subjects including aptitude test will be conducted to ascertain the information of all rounded profile of students at all level.”Thus, the Ethiopian teachers education system, there have been continual changes in the curriculum and teachers profile since the 1994 education reform of the country. At present, the teacher education program is guided by the TDP (teacher development program) document which is guided by a new view of education that promotes continuous assessment (ICDR, 1999). The document also states that in the teacher education, traditional way of assessing students like giving only final exams has to be replaced by continuous assessment that develops and inculcates higher order thinking skills at different levels of the education system.

Assessment is not merely testing (Osokoya, 1996), it is a process through which the quality of an individual’s work or performance is judged (Mwebaza, 2010). In relation to school setting, Greaney (2001) defines assessment as any procedure or activity that is designed to collect information about the knowledge, attitude, or skills of the learner or group of learners. Thus, in the context of education, assessment can be defined as a predetermined process through which the quality of a student’s performance in the three domains of educational objectives (cognitive, affective, and psychomotor) is judged. Assessment of students learning of curriculum contents in the area of knowledge, skills, and values is a major pre-occupation of many educational reforms. This is because results from such assessment not only provide feedbacks regarding the educational progress of students but remain the authentic yardstick for gauging the effectiveness of the teacher, the quality of instruction, and in part the functionality of any curriculum reform. Continuous assessment as an assessment carried out in an on-going process (Mwebaza, 2010) is an objective judgment considered an important part of structured assessment purposely designed and administered to enable the teacher to evaluate some aspect of a student learning at a specific time.

Accordingly, few studies have been conducted on continuous assessment at college and high school levels. Birehanu (2004) conducted a research on teachers' assessment of students' performance with an emphasis on continuous assessment at high school level. Besides, Selamneh (2011) conducted a research on practice and challenges of continuous assessment for instructional improvement at college level. Moreover, Desalegn (2011) cited in Takele Aminu (2012) Carried out a research on an evaluation of the adequacy of the syllabus of teacher training institutes in preparing trainees to implement continuous assessment in the first cycle primary schools. However, less attention has been given to the practices and challenges of continuous assessment at high school and college level.

1.2 Statement of the problem

Continuous assessment is atypical classroom based strategy which provides regular information about the teaching learning process. Regarding this, Ellington (1997) suggested that continuous assessment is carried out on an on-going basis while students are actually working their way through a course. In the same view, Farant (1980) commented that continuous assessment is practiced on a day to day basis to judge the quality of the individual`s work or performance.

Continuous assessment is a student evaluation system that operates at a classroom level and is integrated with the instructional process. It is important to determine the relationship between what is attended and what is achieved (Curzon, 1990)

According to Mkhonta (2003), continuous assessment is an essential component of the instruction process which enables the teachers to better use the "assessment –feedback correlation" learning cycle that is missing from the time limited examinations.

The essence in continuous assessment is not merely administered a number of papers and pencil tests to pupils. In favor of this, Mulu (2005) reported that continuous assessment is a vehicle for improving students` learning through remedial assistance.

Taking all of these in to account, the MOE in our country introduced continuous assessment at the different level of the educational institutions. As stated in TGE (1994), the practical task of implementing the new curriculum at the school level requires continuous assessment as part of the curriculum in general and the instructional process in particular. To realize this, the role of teachers is of paramount importance. Put it differently, teachers should be well- informed about

the concept and procedures of practicing continuous assessment before they are made to implement it. In line with this, Teshome (2011) suggested the teachers' knowledge and attitude should be considered for effective implementation of the assessment program.

In our context, however, it seems that teachers do not have a clear understanding of the concept of continuous assessment. A teacher for instance might interpret continuous assessment as continuous testing. This wrong conceptualization of the term will even affect the need to employ a variety of techniques to assess the learners` progress. It is worthwhile, therefore, on part of the investigator to look into the teachers' perceptions and practices of continuous assessment in North Shoa Zone Dera woreda.

1.3 Objectives of the study

General objectives

The main objectives of the research is to investigate how secondary schools mathematics teachers perceive Continuous assessment and how they implement it in Dera woreda General secondary and preparatory schools.

Specific objectives

The specific objectives of the study are:

- ✓ to assess teachers perception about continuous assessment.
- ✓ to what extent the CA is implemented in mathematics class?
- ✓ to identify the major constraints those impede the effective implementation of CA.
- ✓ to determine the teachers give immediate and constrictive feedback to help their students.

1.4 Research question

This research addresses the following fundamental questions to evaluate whether teachers perception different schools in Dera woreda and implementation CA or not

1. What are the perceptions of teachers about continuous assessment?

2. To what extent the different assessment tools are used by teachers to assess their students overall performance in Mathematics?

3. Do Mathematics teachers give immediate and constrictive feedback?

4. What are the major factors that influence teachers' practices of continuous assessment?

1.5 Significance of the study

The finding of this research shall have the following benefits.

- Since the major participants of the study is mathematics teachers of the Dera woreda secondary and preparatory schools, the research shall benefit them to examine their perception and practice of CA.

- It could inform the government or concerned bodies to examine the major impediment of implementation CA and re-plan for immediate or long term measure will be taken to solve the problems.

1.6 Delimitation of the study

Although the problems could be observed in all regions, this study limited to General secoundary and preparatory schools of Oromia Region North Shoa Zone. Among the 13 woredas in North Shoa Zone the study is limited to only one woreda (Dera). Of the General secondary and preparatory schools found in these woredas only for schools (Salash General secondary, Cheka General secondary, Bitotesa-17 General Secondary and Bitotesa-17 preparatory schools) were include in the study.

1.7 Limitation of the Study

While conducting this study the following some problems were encountered.

- Lack of research output related to perception with respect to work load
- Lack of responsibility of some respondent in filling the questionnaire

1.8. Organization of the study

This study has five chapters. The first part deals with background of the problem and its approaches. Then the review of related literature appears in chapter two. The third and fourth chapters treat the research methodology, presentation and interpretation of the data respectively. Finally the fifth chapter presents summary, conclusion and recommendations of the study. Reference, appendices and questionnaire are also attached at the end.

1.9 Operational Definition of key terms

Assessment:-is the process of collecting, synthesizing and interpreting information to aid class room decisions making.

Continuous assessment :- An assessment approach which should depict the full range of sources and methods about learners, information that is used to help teachers understand their learners, plan and monitor instruction and establish available class room culture

Continuous assessment practice: The overall efforts made in the implementation of continuous assessment.

Class size: Refers to the number of students assigned to and enrolled in a specific class

Feedback: Information returned to students on their progress in their course/subject.

Observation:- techniques for assessment of students practical work where instructors watch the completion of a given task and assess the process and the products.

Perception -Perception is the process of attaining awareness or understanding of sensory information. Roth and Bruce (1995) as cited by MARVA.D (2008) describe perception as ``How 'we make sense of all the information we receive from the world via our sense

Chapter Two

2. Review of the Related Literature

2.1 Meaning of Continuous assessment and Nature of Continuous assessment

2.1.1 Meaning of Continuous assessment

Different writers define continuous assessment differently, which can be categorized as narrow and broad definitions. The narrow definition confines Continuous Assessment only to classroom instruction. Asabe (2007), for example, defines it as a classroom process that is integrated with instruction. Similarly, Falayalo (1986) and Juliet (2007), viewing it as an integral part of instruction, considers it as a mechanism whereby the final grading of learners on the cognitive, affective, and psychomotor domains of learning is made. The cognitive domain refers intellectual skills, while the affective domain includes attitudes. The psychomotor domain refers to the physical movement, coordination and use of motor skills; and in and writing skills. Another definition by Airasian (1991) describes continuous assessment as an assessment approach which should depict the full range of sources and methods teachers use to gather, interpret and synthesise information about learners; information that is used to help teachers understand their learners, plan and monitor instruction and establish a viable classroom culture. On their own part, Baker and Stites (1991) opined that continuous assessment should involve a formal assessment of learners' affective characteristics and motivation, in which they will need to demonstrate their commitment to tasks over time, their work-force readiness and their competence in team or group performance contexts.

Continues assessment is a class room strategy implemented by teachers to as a certain the knowledge, understanding and skills attained by students (USAID,2003).USAID ,in EQ review newsletters, explained that teachers administer assessment in a variety of ways over time to allow them to observe tasks and to collect information about what students know, understand and can do. These assessments are curriculum based tasks previously taught in the class.CA occurs frequently during the school year and is a part of the regular teachers pupil interactions. Pupils receive feedback from teachers based on their performance that allows them to focus on topics they have

not yet mastered. Teachers learn which students need review and remediation and which pupils are ready to move on to work that is more complex .Thus ,the result of assessment helps to insure that all pupils make learning progress throughout the school cycle thereby increasing their academic achievement.

The other definition given by the minister of basic education and culture of Nambia (1999) showed that when both formal and informal assessment are done on a regular and continues basis they are referred to as continues assessment. Continues assessment is meant to be integrated with teaching in order to improve learning and to help, shape and direct teaching learning process.

According to the minister of basic education and culture of Nambia the assessment is continues because

- It occurs various times as a part of instruction
- May occur following a lesson
- Usually occurs following atopic and
- Frequently occurs following a theme

Another definition by Airasian (1991) describes continuous assessment as an assessment approach which should depict the full range of sources and methods teachers use to gather, interpret and synthesize information about learners; information that is used to help teachers understand their learners, plan and monitor instruction and establish available classroom culture

Similarly, Bakerand states (1991) as cited in Y.A Alausa (n.d) explained that continues assessment should involve a formal assessment of learners affective characteristics and motivation in which they will need to demonstrate their commitment to task over time their work force readiness and their competence in team or group performance contexts.

Furthermore, continues assessment is a way of collecting information about learners and on regular basis in order to improve the teaching learning process (puhl, 1997). Continues assessment is more formative means of assessing learners that gives an opportunity for them to improve their

performance. it is used as a process of gathering and integrating information about learners shifting from a judgmental role to a development role (Byrans, 1992; puhl, 1997)

Assessment, as defined by Aggrawal (1994), is beyond a mere by which we see what pupil have achieved, analyze how they learn and aware of their attitudes toward learning.
According to Mkhonta(2003),continues assessment is a way of finding out what pupils know, understand and can do so as to promote learning. In the same manner Curzon(1990:135) stated that continues assessment is a comprehensive term ,which refers ,particularly ,to enquiring in to learners competence ,knowledge attitude and skills through various students 'profile using different assessment methods to improve learning.

Regarding the use of limited CA tools, Nitko (2005) stated that different tools help teachers to find out what students already know and can do, which part of the lesson are difficult to students are lagging behind and strength and weakness of students. According to Nitko (2004) described continuous assessment as an on\u2010going process of gathering and interpreting information about student learning that is used in making decisions about what to teach and how well students have learned. Nitko highlighted some merits of continuous assessment

- It promotes frequent interactions between pupils and teachers that enable teachers to know the strengths and weaknesses of learners to identify which students need review and remediation.
- Pupils receive feedback from teachers based on performance that allows them to focus on topics they have not yet mastered

From the above definition one could inter that continues assessment is an assessment approaches that involves the use of variety, of assessment instruments assessing learning and teaching to improve instructional process.

2.1.2 Nature of Continuous assessment

Continuous assessment by its nature is systematic, comprehensive and cumulative and guidance oriented activity and that its effective implementation needs to fulfill these Peculiar features (Adebowale et.al 2008, Eggen and kauchak ,Hounesell et,al.1996 cited in Birehanu 2004)
In terms of comprehensiveness, continues assessment practice requires the use of varied approaches and assessment tools stated otherwise, teachers by using continues assessment can address behavioral domains which could not be assessed by terminal based assessment .In view of this ICDR (2004) has listed the following areas which continues assessment can address assessment achievements in various subjects using real exams and different written tests. Assign schools related behavioral aspects, extracurricular activities and fulfillment of assessments discipline and punctuality.

Assessing general behavioral aspects like characteristics, interest, beliefs and attitudes .Comprehensiveness is not only in terms of the behavioral domains measured but also in terms of the assessment ,other than tests or examinations must include varied assessment tools such as projects, presentation, interviews ,observation ,oral questions, home work, Quiz and similar other kinds. Therefore, comprehensiveness in assessment is meant addressing multiple learning styles, variety in semester and weekly projects and variety in the thinking skills and inquires, Hence pupils marks could then be a profile of many areas of competence rather than concentrating on a single behavioral domain (Ali ,1988) The cumulative nature of continues assessment is related with decision making .This means in order to make dependable and reasonably accurate decisions ,teachers must depend on variety of evidences collected using instruments at different times In support of this suskiel,(2004) prescribed teachers to collect enough evidences to get representative sample of what their pupils have learned and can do .the justification is that a complete picture of pupils performance could be known only when teachers put together enough pieces of evidence .

Assessment is not an end by itself that means to an end (Grunlund, 1981; lin and Nitko 2004), the guidance nature of continues assessment is driven from this general principle of measurement and evaluation .Continuous assessment mainly focuses on monitoring and guiding pupils' progress throughout the content of the subject material taught

Continuous a significant role assessment plays in making our learners to be what we want them to be. Concerning this, Puhl, (1997) underlined that continuous assessment contributes largely to the full development of the learner potential if handled properly. In other words, Continuous assessment affirms higher order and critical thinking because it enables teachers to assess the cognitive, affective and behavioral outcomes of learners. Regarding this spandel and stiggins (1990) asserted that continuous assessment can promote students learning by building their confidence and their understanding if it is effectively planned and monitored.

Continuous assessment is important as it provides regular information about teaching, learning and the achievement of learning objectives and competencies. It allows the teacher to assess performance-based activities in a classroom environment that are difficult to assess in examinations (Walkin, 1991).

Similarly, Ellington and Earl (1997) outlined the educational advantage of Continuous Assessment as follows

- The fact continuous assessment involves data gathering over a longer period of time enables teachers to get more accurate data that is important to modify instruction. This in turn, is helpful in diagnosing and remediating areas of learners' weaknesses.
- Continuous assessment encourages regular, systematic study and discourages last minute cramming. Thus, it rewards students who have been actively engaged throughout the course.
- Continuous assessment generally provides a more natural assessment environment type of assessment that is better fitted to the situations in which students will find themselves working in later life.

2.2 Purpose of Assessment and The importance of Feedback and Comments

2.2.1 Purpose of Assessment

The purpose of continuous assessment is many. It serves to see whether the teaching learning carried out in schools achieve its objective or not. According to Namibia Ministry of Basic Education and Culture, Teachers Manual on formative Assessment in science Class (2010), the following purpose of assessment was suggested.

To ascertain what learning, change and progress takes place in the child over a period of time in different subjects of study and other aspects of the Child's personality, to find out the needs and learning style of every learner and to devise teaching- learning plan that is responsive to the individual needs and learning style. Further ,it helps to improve the teaching-learning materials by adding value and help every learner find out their interest, aptitudes, strengths and weaknesses so that the learner can evolve effective learning strategies, to measure the extent to which curricular objectives have been realized and to enhance the effectiveness of the teaching-learning process.

According to capper (1996), the following purpose of assessment were suggested

Improving instructional materials, regarding how effective teaching procedures, activities, the text book, and other materials are in teaching, improving students learning. Both teachers and students need to know how students are doing. First, of course, they should know that the goal is towards which the students are studying what they eventually need to know or to be able to do. If through assessment teachers and students get feedback as to what students already know have learned or do not know get, then teachers can direct students study appropriately to learn the remaining material, teaching assessment activities, if appropriately planned and used, can be powerful learning activities.

On the other hand, Plessis et al, (2003:9) has identified reasons for using CA as:

To improve teaching, to lead the overall evaluation, to find out what students know and can do, to promote learning for understanding, to let parents know how their children are progressing, to gain confidence in what we say our students know and to provide all children with opportunities to show what they know, to let students know how well they are in their our learning, to determine what kind of remediation and enrichment activities to provide, and to identify which students need help.

In general the purpose of continuous assessment circles around improving teaching-learning activity, addressing students' interest in the course of learning and creates an opportunity for both teachers and students to work for the same purpose-improving students' learning. So, in order to make assessment activity fruitful, prior to the implementation teachers are expected to suit their assessment activity to serve the above listed purpose.

2.2.2 The importance of Feedback and Comments

It is a good practice if assessment procedures provide feedback and comments to students about their learning. In order to improve learning by feedback, learners must be given chance to review both correct and incorrect performances. According to William and Thompson, 2008 (cited in Sayad Ahmad) formative feedback by closely examining teacher's responses to students work. for example , if the teachers asks students to proved more details about written work, the practice is characterized as formative; however, a concern a rises as to whether the students know what the instructor meant when he or she asks for elaboration and more details .Black and William(1998) , Asserts that formative feedback illuminates students strength and weaknesses provide some suggestion for improvement, and a void comparing one students with his or her peers, In addition Black and William (1998) reported that feedback on tests, class works, and homework should give each pupils guidance on how to improve and each pupil must be given help and an opportunity to work on the improvement.

CA is a good practice if assessment procedures provide feedback and Comments to students about their learning. In order to improve learning by feedback, learners must be given chance to review both correct and incorrect performances. Feedback should always contain ways for improving learning in the future. Therefore, teachers who show only grades or marks are not providing enough feedback to help improve student learning (Nitko, 2004).Research experiments have established that, while learning is advanced by feedback through comments, giving of numerical scores or grades has a negative effect, in that students ignore comments when marks are also given (Black &William, 2005)

2.3 Perception of teachers towards continuous assessment practice

Research and educators share the idea that teachers low interest or negative attitude towards assessment has contributed to poor assessment practice in light of this, Brookhart (2002) reviewed that teachers have negative attitude towards test used such away to have what they perceive as negative consequence for their students. Furthermore, Nitko(1996) and Linn(2000) cited Birehanu

(2004) stated that the new assessment program can succeed only if teachers accept it. if teachers do not have clear understanding of the idea of assessment and if they are not ready to accept the basic philosophy of the program, its implementation will be in question .

Similarly, Teshome (2001) has remarked that teachers must understand the assessment process and accept it as their own for its effective implementation. In spite of this fact, lack of orientation and assistance from the concerned individuals, insufficient training and lack of adequate materials make it difficult for teachers to appreciate and apply continuous assessment
Marso and pigge(1993) cited in Brookhart (2002) concluded in his review that there were conflicting findings about teachers attitudes towards assessment.

Accordingly, some studies they reviewed showed teachers lack of confidence in testing while some others expressed confidence in their knowledge about testing. Accordingto Adeneye O. (2013). Attitude of STM teachers toward continuous assessment practices. First, a higher proportion of the STM teachers seemed to display positive attitudes toward most of the continuous assessment practices, while their attitudes toward some assessment practices tended to be either negative or neutral. Second, gender and age might not be potent factors in STM teachers' attitudes toward continuous assessment practices. Third, the combination of the independent variables (discipline of study, year of study, and mode of entry) might not significantly contribute to the prediction of attitudes of STM teachers toward continuous assessment practices, although discipline of study seemed to have made relative contribution to the prediction of STM teachers' assessment practices attitudes toward CA.

Based on the above and in line with previous studies results (Nneji etal, 2012) cited in Adeneye O.2013, it is suggested that training for STM teachers on continuous assessment practices should be based on the predetermined attitudes of STM teachers toward the various assessment practices, and in situations where such attitudes tend to be negative or neutral, efforts should be made at directing the training programme in the teacher preparation institutions towards effecting changes in the observed negative or neutral attitudes in such a way that the STM teachers, on completion of the training, would display positive attitudes that would conform to effective implementation of continuous assessment. In conclusion, future research may investigate the joint and relative

contribution of other demographic variables of STM teachers to the prediction of their attitudes toward continuous.

In addition to this Abiy.Y,(2013), He stated that teachers and students also had a positive attitude towards continuous assessment and they assumed that they would practice it in the teaching learning process to promote students` intellectual, emotional, physical and social interaction skills. A.Ebhomien etal. (2012), Teachers' qualification/experience does not influence the smooth implementation of continuous assessment in mathematics? He showed that x2 critical value of 3.84 and calculated x2 value of 9.84 at0.05 level of significance. Since the calculated x2 value is greater than the critical x2 value, this means that the relationship between the variables is statistically significant. Furthermore, this study revealed that teachers' qualification/ experience in the practice of continuous assessment have effect on its implementation. And also Egwu *et al*. (2009) who observed that poor experience/ qualification of mathematics teachers in Benue and **Ondo** States adversely affected the implementation of some aspects of the new mathematics curriculum in which continuous assessment is part.

2.4 Advantage of Continuous assessment

One of the expected advantages of continuous assessment lies in its being guidance oriented. Since it will involve data gathering over a long period of time, it will yield more accurate data reaching the teachers early enough to modify instruction. This could play a vital role in diagnosing and remediating areas of learners' weaknesses if properly anchored in what occurs in classrooms. Continuous assessment is an approach that would capture the full range of learners' performance. Teachers and administrators would thus be able to assess learners' progress and would have time to correct the problems.

Another advantage of continuous assessment is that it places teachers at the centre of all performance-assessment activities. It encourages more teacher participation in the overall assessment or grading of his/her learners. As suggested by Paris et al. (1991), teachers must be given opportunities to select and review assessments so that they become involved and knowledgeable in the process. Through this approach, teachers would be able to integrate assessment and assessment results into instructional practice. Teachers will be expected to

incorporate assessment into the larger learning framework and possibly to provide evidence regarding how assessment information is used to inform and guide instruction for individual learners. According to Lewis (1997), with continuous assessment teachers must embed the assessment in their instructions, score the assessments and discuss standards for good learners' work with colleagues, parents and learners.

A, for learners

Research finding in South Africa national educational document in 1996 concluded that the following uses of continuous assessment in developing ability of learners

Solve problems and make responsible decisions using critical and creative thinking:

Work with others as a member of term (group) organization continuity, deal with information critically, and communicate effectively using visual, mathematical and language skills, participate as a reasonable citizen locally nationally and globally, make wise and safe choices for health leaving and use science and technology critically showing reasonability towards the environment and the health of others

B, for Teachers

Stiggnns (1998;Ostcrhof (1999);popham (1999),as cited in Dereje(2010) Concluded that it helps the teachers in the classroom by the following points. These are to find out what students know and can do, to gain confidence in what we say our students know and can do and it help teachers to provide all children with opportunities to show what they know and to promote learning for understanding. Moreover, to improve teaching and determine what kind of remediation and enrichment activities to provide and to identify with students need assistance.

2.5 Drawbacks of continuous assessment

Even though continuous assessment is a preferred way of assessing learners for some scholars, it is not without some drawbacks which are discussed in some details below

Learners who assessed continuously may feel that they are always under surveillance for every mistake they commit (Nitko, 2005; Pleases, et.al 2003) this may have a negative impact on the learners performance. Continuous assessment may also bring a profound negative effect it is not well planned and properly protected regarding this, Ellington and Earl (1997) stated that, Unless

CA is carefully planned and coordinated, there is Avery real danger when several lectures are asking simultaneously for assignment to be handed in CA can, if not properly managed adversely and their tutors with the latter being regarded with suspicion and (in some extreme cases) enmity and occasionally even introducing malpractice, as improving penalties for seeking help. In order to enhance the effectiveness of continuous assessment it is important to minimize the draw backs.

Elligton and Early (1997) point out the teachers need to have a well-developed knowledge and skills to be creative in their implementation of continuous assessment .Teachers should also have a well-organized plan of assessment to maximize the success of continuous assessment, and all the problems listed above can be overcome by carefully planning and good practice (Elligton and Earl 1997; online)

2.6 Rationale for Continuous Assessment in the Secondary School

Teachers' implementation of continuous assessment as part of their instruction may help students achieve quality education, develop innovativeness and a sense of competence, and get opportunities for independent as well as life-long learning. Let us look at them in details.

1. **Assessment as a very important part of teaching and learning process:**

As a teacher, you should be involved in the final assessment of the pupil you have taught. The C.A. provides you with this important function which is integral to the teaching-learning process. This is a radical departure from the old assessment system whereby the final assessment is done through a single one-slot examination set by an external examination body or agency like the Ministry of Education. This method does not give the teacher the opportunity of participating in the final assessment of the pupils he/she has taught.

2. It gives a true picture of the pupil's ability:

The final grade which a pupil makes at the end of his primary education takes into account all his performances throughout the period of schooling. This gives the true picture of the total ability of the pupil.

3. It facilitates appropriate guidance of the pupils:

C.A. provides procedures that bring about necessary guidance to the pupils in both their learning Endeavour and in their preparations for careers. It also provides guidance in Psychological areas to the pupils and their parents.

4. It makes teachers become innovative and creative:

The C.A. situation makes teachers become innovative, creative and exploratory in their approach to teaching. This is because teachers continuously assess the pupils, therefore they device various ways of making the assessment interesting and valuable. Again, they assess pupils' performance on innovations, interesting and valuable topics introduced in their teaching. This forms part of the final grade of the pupils at the end of the primary school

5. It helps teachers to assess their own teaching:

From time to time, teachers use the continuous assessment to assess their own teaching strategies. This will help them to improve on their performance

6. It helps to reduce examination malpractices:

If after several years of work, one slot examination which is seen as very crucial is used to decide the fate of the future of the pupils, the temptation to pass by any means, fair or foul will be very high. This temptation is reduced since the final grade of the pupils includes all their performances during the entire period of schooling.

2.7 Basic Types of Assessment Procedures

The assessment procedures that are found to be basic and most useful in the teaching learning process worth classifying. Supporting this idea, Struyven Dochy anmd Janssons(2002); Grounlund(1982); Edwards and Galloway(1992); Fisher(1996) classified the different assessment purposes in to one of the following types

I. Placement Assessment

This is geared towards investigating learners' entry performance. In other words, the goal of placement assessment is to determine for each student the position in the instruction that is beneficial to the learners

II. Formative Assessment

Formative or continuous are based on the on -going observations which teachers make use of regarding a child progress such kind of assessment provides vital feedback on the pupils strength and weakness of teachers ,parents, and students themselves.

III Summative Assessment

This type of assessment most often occurs at the end of a unit of instruction and at term or year-end when students are ready to demonstrate achievement of curriculum objectives As Fisher (1996) defined; summative assessment is a summary of assessment.

Summative assessment is used for grading, promoting and certifying purpose it is also helpful for providing information based on the assessment of the effectiveness of a program of instruction (ICDR, 2004)

IV Diagnostic Assessment

As Struyven Dochy anmd Janssons(2002) viewed the aim of diagnostic assessment is to determine the causes of persistent learning problems and to formulate plan for remedial actions.

2.8 Tools and techniques for assessing cognitive and non cognitive behaviors

A variety of instrument and techniques are required by the class room teachers to assess cognitive and non cognitive (affective and psychomotor) behaviors of the students.

Tools of Assessment

According to Stiggins (2005), there are several kinds of assessment which facilitates effective teacher-learning process. These assessments form part of the continuous assessment process that could be used in the schools to determine students' understanding, knowledge, and performance levels and success in the educational sector. The author stressed that examinations and

Assignments are the two most commonly used approaches to assessment in education, particularly higher education; adding that negotiated and computer-based assessment are emerging approaches that are gaining popularity among some disciplines. The following are among the types of assessment (Stiggins, 2005):

Examinations –

It is a common misconception that examinations are a type of assessment Rather than an approach. An examination defines the conditions under which student's abilities will be tested. They usually restrict the time and place where the assessment task will be performed. Any of the methods of assessment below can be taken under examination conditions.

Assignments-Assignments are unsupervised pieces of work that often combine formative and summative assessment tasks. They form a major component of continuous assessment in which more than one assessment item is completed within the semester? Any of the methods of Assessment below can be set as assignments although restrictions in format, such as word limits and due dates, are often put on the assessment task to increase their practicality.

Negotiated- Negotiated assessment involves agreements between staff and students on issues associated with learning and assessment. The most common negotiation method is to develop a written learning contract that outlines the conditions of assessment.

Short-answer Questions: A large proportion of assessment items make use of short answer questions of some form (in assignments, quizzes, examinations, laboratory tests). These questions vary in expected student response from one word or several lines to over a page, and include forms such as complete the sentence; supply the missing line, problems and exercises in

Science-based subjects, short descriptive or qualitative answers, essay plans, diagrams with explanation, etc. According to Herrera et al., 2007 as cited Sayad.A Self assessment is valuable for learning and measurement for example, when they try to learn the criteria for high quality performance, and they experience a willingness to apply those criteria

2.9 Research findings on continuous assessment

Although researchers, specifically on continuous assessment are scale they are abundant researches on the implication of continuous assessment in Dera woreda secondary school in mathematics class. Few will be discussed here to give a sense of the international and national context in relation to primary and secondary school levels.

2.9.1 International research findings on the implementation of Continuous assessment

A. The implementation of school based CA in Zambia

In Zambia, continuous assessment (CA) is defined as an on-going, diagnostic, classroom-based Process that uses a variety of assessment tools to measure learner performance (MOE, 2005:5). Over the years, examinations have been used for selection and certification, without formal considerations on school-based continuous assessment as a component in the final examinations at Grade seven levels. The Ministry of Education introduced School Based Continuous Assessment for two reasons: To Improve teaching and learning and to collect school based marks to be added to the final examination Marks for certification and selection. This paper deals with the implementation of school based Continuous assessment, focusing on the shift from emphasizing continuous testing to emphasizing Continuous assessment. The paper deals at length with the implementation of the CA programme, the Nature of the CA Scheme and its school based assessment component, challenges in implementing the school based assessment activities, the impact of school based assessment aspects of the CA programmed and the lessons learnt from the monitoring and evaluation activities.

Challenges and implementing the school based continuous assessment

The findings from the term monitoring visits that were conducted to the pilot schools revealed that the teachers encountered various challenges in implementing the formative school-based assessment. Further information about the challenges that teachers encountered were also revealed by the findings of the Formative Evaluation Study of the Implementation of the Continuous Assessment Pilot Programme at the Basic School Level in Zambia (Kapambwe, 2006).

The major challenges:

Large class size, staffing teaching and learning resource and teacher networking are major challenges in implementing continuous assessment.

In addition, Sarwar (2011) cited in Muluken,A.(2006).Also identified the problems that teachers raised in relation to large class size. These include:

Teachers feel self conscious, nervous and uncomfortable under eyes of many students, problems in evaluating oral and written work, shortage of time to help individual students, discipline and classroom problems.

Similarly, Hayes (1997) listed down the problems that teachers faced in large class size as follows

- Control – teachers feel that they are unable to manage disciplinary problems
- Evaluation- teachers feel uneasy to carry out assessment for a number of pupils for it demands more time and energy
- Individual attention- many teachers feel they are neglecting the needs of their students as individual.

B. Implications of Continuous assessment for the Classroom Teachers in Nigeria

In the continuous assessment system, the teachers, headmasters, Ministry of Education officials, the School Counselors and the pupils are expected to be co-operatively involved in the implementation. You can see that C.A. has implication for every stakeholder in the primary school system. But in the final analysis, the teacher becomes the person to do much of the implementation. Therefore, the teacher needs to do certain things and needs to have certain skills for effective implementation of the continuous assessment.

What the Teacher should do:

In the practice of the continuous assessment, the teacher should

Combine the different scores obtained by each pupil from the various aspects of assessment, such as tests, examinations, projects, practical works, assignments etc. carried out within the Specified period of classroom instruction. It means then that the sources through which scores should be collected must be decided and planned for in advance.

. **Skills Required of Teachers to implement the continuous assessment**

The implementation of the continuous assessment of programs in the Primary schools requires that the teacher should be proficient in a number of skills which include:

Skills in educational Measurement: The primary school teacher should be proficient in the planning, construction and utilization of achievement tests and other assessment tools for the measurement of academic achievement the lessons in developing the instruments. These objectives must be stated in measurable terms. In addition, the teacher should have a sound knowledge of the relevant subject matter. Moreover, skills in the assessment of affective and psychomotor behavior: The teacher should be proficient in planning, designing and utilizing tools or instruments for the assessment of personality characteristics and psychomotor behaviors.

2.9.2 National research findings on the implementation of Continuous assessment

From Ethiopian research context, Birhanu, (2004). Indicated that proper handling of students assessment in general and continuous assessment in particular at high school level in selected high school in Arsi zone is poor and not up to the standard compared to the contemporary assessment system. His findings further indicate that the major problems in implementing CA include: lack of awareness about the techniques and procedures, lack of guideline directives in implementing CA, inadequate preparation of teachers on CA, lack of technical support, unmanageable large class size, lack of adequate learning materials, Lack of adequate supervisors who can guide practitioners, lack of student motivation and learners negative attitude towards project and assignment. According to this study, these were found to be practical problems in implementing CA in Arsi zone high school.

Derebsa (2006) cited in Selamnah.Z,(2004) is also his research findings on assessment techniques and the implementation of a learner centered approach indicated that with the constant focus on the right answer to an examination questions students commit a large part of their to memorizing chunks of information as replied by 90.3% of the sample students because teachers mostly emphasizes facts and information in their questions for exams/tests. The further explains his findings by saying that assessment, particularly in the form of examination, which emphasizes

recall of wide range of very specific information and problem solving by formula dose not encourage active learning. As replied by sample students (66.8%), the assessment system employed by teachers only allows students to part by replaying information from lectures and text books. The purpose of evaluation in the learner centered learning approach is not merely to rate the learners` performance and to maintain academic standards, but it should be used instead to encourage independent learning and critical thinking Derebsa (2006) cited in Selamnah.Z (2004).

The above research findings are conducted in primary and secondary school level and clearly show the problem of assessment in general and the poor implementation of CA in particular and recommendations were also forwarded for better improvement of the teaching learning process in general and the assessment method in particular. Even though all these efforts were made, the problem seems to be continued at college level where the implementation of CA is recent phenomena. Thus this study tries to investigate if similar or different problems a college level may be found in order to cite necessary recommendations for the concerned bodies.

Derebsa (2003) cited in Takele Amenu, (2012), also in his research findings on assessment techniques and the implementation of learner centered approach indicated that with the constant focus on the right answer on examinations question, student commit a large part of their time to memorizing chances of information, as a replied by 90.3% of the sample students because teachers mostly emphasize facts and informative in their question for exam/test. He further explains in his findings by saying that assessment, particularly in the form of examinations, which emphasizes recall of wide range of very specific information system employed by teachers, only allows a student to pass by replaying information from lecture and textbooks.

CHAPTER THREE

3. RESEARCH METHODOLOGY

This chapter is expected to address those issues related to the research design, research method, and the total population of the study and the samples of the study with the selection mechanisms. Additionally, instruments and procedures of data collection were also addressed. Finally, the systems of pilot testing the instruments and data analysis techniques were discussed in this chapter.

3.1 Research Design

Descriptive survey research was employed for this study. It was available for this work to obtain current information about teachers` perception and practice of continuous assessment in secondary and preparatory school in mathematics class. It is also important to investigate the collected data within detailed information concerning continuous assessment. According to Kothari(2004) stated the major purpose of descriptive survey is description of the state of affairs as it exists at present . According to this scholars explained that the main characteristics of descriptive survey enable the researchers to come up with what has happened or what is happening.

3.2 Research Method

This study employed the mixed method. Because this method helped the teachers to see the issue under study both from qualitative and quantitative perspective. Further, mixed method was used to complement the weakness of one method by the strength of the other method. Quantitative research method helps to analyze a data which was quantitative in nature whereas, qualitative research was used to analyze those data which were not quantitative in nature.

3.3 The Study Area and Study population

The area of study was Oromia region north shao zone *Dera woreda*. Targeted population for the study was all the mathematics teachers, directors and students in the 3 General secondary and 1 preparatory schools in Dera woreda. They are Cheka *genet* high school, *Salash* high school,*Bitotes 17* high school and Bitotesa 17 preparatory school having 358, 163, 733 and 449 students respectively and there are 20 mathematics teachers in these four Schools**.**

Therefore, the target population of this study was 1703 students, 20 mathematics teachers and directors in these four schools. Here the researcher selected from the four secondary schools of *Dera wereda* as a population.

3.4 Participants and Sampling Techniques

The sampling frame of my study was all officially registered 1703 students, 20 mathematics teachers and 4 directors of the above listed four schools. The sampling technique was Purposive sampling techniques for teachers and schools principals were used. Because the number of school principal and mathematics teachers were 4 and 20 respectively. I included all of them as a participant of the study.

However, the total number of students in *Dera woreda* high school is 1703.Hence; it is difficult to include all of them as data sources. The size of sample should neither be excessively large nor too small. It should be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility. According to Kothari (2004) a study population of interest (N) less than 10,000, sample size of the study is calculated by using the formula:-

$$n_f = n/(1+\frac{n}{N}) \qquad \text{Where } n = \frac{(z^2 \times p \times q)}{d^2}$$

n= desired sample size

z = standard normal variable at the required confidence level (z-statistics) = 93% =1.81

p = estimated characteristics of target population = 0.5

q = 1-p =1-0.5 = 0.5, d= level of statistical significance of error = 0.07

Therefore, for the population of interest (N), 1703 the sample size is calculated as:-

$$n = \frac{(z^2 \times p \times q)}{d^2} = (1.81)^2\ (0.5)\ (0.5)/\ (0.07)^2 = 167$$

$$n_f = n/(1 + \frac{n}{N})) = 167/(1+167/1703) = 152$$

Therefore, the sample size for this study was 152 students

I selected samples from them. Out of these 1703 students each school contributes in the following proportions

Schools	Total number of students	Sample	Percent from population	Remark
Salash high school	163	15	10%	
Chekaganet high school	358	32	21%	
Bitotesa 17 high school	733	65	43%	
Bitotesa 17 preparatory school	449	40	26%.	
Total	1703	152	100	

3.5 Source of data

Sources of the data in this study were both primary and secondary data. These data were collected from secondary and preparatory school in *Dera woreda*.

3.5.1 Primary Data

Primary data were collected from students, principals and secondary school mathematics teachers. Moreover observations regarding the classroom facilities, classroom interaction and related matters in the school were made. Primary source help the researcher to get first hand information about the issues under study.

3.5.2 Secondary source

Secondary data were obtained from different documents .In this regard, an assessment of documents related to the areas of the study was consulted in *Dera woreda* secondary and preparatory school and *Dera woreda* education office. These document include mark list, teachers profiles and other important documents prepared by ministry of education

3.6 Instrument of Data Collection

Both quantitative and qualitative data were collected using different data collecting instruments. Among these questionnaire, interview, observation and document analysis were employed for the study to collect primary and secondary data.

3.6.1 Interview

In this study, interview helped to collect information about the perception of teachers to continuous assessment and practicing in mathematics class. More specifically, the researcher interviewed 4 school principals before starting the interview the school principal were informed about the purpose of the study. To make the communications more effective, all interviews were made using respondents vernacular language. i.e Amharic. It was useful supplement for the information gathering through other instruments as well as for the clarification of teachers.

3.6.2 Questionnaires

Questionnaire used for its appropriateness to secure data from many stakeholders. This allows informants express their ideas and opinions freely. Thus, questionnaire composed of both open ended and close ended items are prepared and administered.

This work prepared in two sets of questionnaires. The first will be for the teachers which focus on the perceptions and practices of continuous assessment as well as implementation of different continuous assessment techniques and its benefits prepared for students. The second for students which focus on their understanding about continuous assessment, and practicing it in classroom teaching learning processes?

3.6.3 Class room observation

This used to see the extent to which mathematics teachers employ continuous assessment techniques in their classroom to cross-check the responses of the teachers and their practices in the class room.

3.6.4 Document Analysis

In addition to the above instrument of data collection, documentary analysis used to gather secondary data .Therefore, reliable information obtained from the four secondary school essential documents like school plans for the implementation of continuous assessment, students` mark list, teachers` profile and other relevant document had organized.

3.7 Validity and Reliability

To test the validity and reliability of the instruments, a draft of the questionnaires were distributed for senior teachers and to my advisor .They commented me that the instruments lacked of consistency, clarity in some aspects. Based on their comment, the necessary correction had done to

improve the validity and reliability of the instrument. A pilot test was administered among 30 respondents. Normality between -1 and 1 and Cronbach`s alpha Reliability coefficient is 0.761(See Appendix I)

3.8 Procedures of Data Collection

After correcting the result of pilot test, the questionnaire was reconstructed on the basis of item analysis then Permission was requested from the school principals to collect data from the respondents. Orientation was given, on one part, upon the process of distribution and collection of questionnaires to the assistance data collectors or mathematics teachers how to handle questions raised from the respondents. In addition, Clear explanation was providing to the respondents about the questionnaire. Therefore, the data collection was conducted through questionnaire, interview observation and document analysis.

3.9 Method of data analysis

Both quantitative and qualitative data analysis method used in the study. Quantitative data which was collected through questionnaire from teachers and students was organized, tabulated and described quantitatively, using percentage and SPSS version 20 using this instrument one way ANOVA, Fisher's Exact test and Mann-Whitney U test were used. Those data which collected from participant through interviews open ended questions and document analysis narrated in words in order to supplement the information gathered through other instruments.

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATION

In this section, the results obtained from questionnaire, interview, classroom observation, and document analysis were analyzed. Various statistical methods were employed to present and analyze the structured item of the questionnaire quantitatively. To supplement and enrich the information that was drawn using questionnaire, the data from open ended questions, interviews, observation and document analysis were illustrated and described in words whereas the quantitative data analyzed by the support of Statistical Package for Social Science (SPSS) . The structured questionnaires were prepared for teachers and students whilst the interview was conducted for principals. In order to get more information, observations and documents were referred. The first part of this chapter deals with the personal information of participants whilst the second section deals with the analysis of the finding of the study in relation to the basic research questions.

4.1 Background and characteristics of participants

Table 1: The socio demographic characteristic of the respected teachers' participants

Variables	Categories	Frequency	Percent
Sex	Male	18	90
	Female	2	10
	Total	20	100
Age	20-25	7	35
	26-30	6	30
	31-35	5	25
	≥36	2	10
	Total	20	100
Teaching experience	0-3yrs	4	20
	4-7yrs	10	50
	8-11yrs	4	20
	≥12	2	10
	Total	20	100
Teaching load	<10	2	10
	10-15	8	40
	16-21	10	50
	≥22	-	-
	Total	20	100
Educational qualification	Diploma	2	10
	BED	16	80
	MED	2	10
	Total	20	100

In general, 172 structured questionnaires were distributed to the students and teachers; 20(11.83%) of them disseminated for teachers but the rests149 (88.17%) were for students. in order to filled out and returned for the purpose of analysis. All the participants were *Dera Woreda* General and Preparatory Schools students and teachers. As the descriptive report of the above table elaborated that in this research 18 (90%) male and 2 (10%) female teachers were participated. The majority, 7 (35%), of them were between 20-25 years of age. Except 2 (10%) respondents over all in all study units were 20 to 36. Due to this reason most of their teaching experience below 12. In fact, 10 (50%) of the teachers had experience between 4 to 7 years. If we see the teaching load practice, 10 (50%) of them were thought from 16-21 periods per week. This shows that 50% of the instructors were loaded and this condition could affect their work negatively because they thought more than 15 periods per week. Concerning, educational back ground of respondents 16(80%) of respondents were Degree holders, 2 (10%) of the respondent

was Diploma and only 2(10%) of respondents was Master Graduate. this show that the majority of the respondents were qualified.

Table 2. Characteristics of student participants

Table 2 below emphasizes the student participant characteristics. Mainly it stress on their sex and grade level.

No	Item	Student participants characteristics	No
1	Sex	M	99
		F	50
		Total	149
2	Grade	9th	60
		10th	49
		11th	24
		12th	16
		Total	149

As shown in table 2 above 149 students were participated in this study among this 99(66.5%) participants were male and the remaining 50(33.5%) of them were female respondents. Regarding the grade of the participants 60 (40.3%) of them from nine, 49(32%) from ten, 24 (16.1%) from eleven and a fewest of the rest 16(10.7%) came from twelve.

4.2 perception of Teachers about continuous assessment

In-service and pre service background training teachers on CA

In- service and pre-service training such as periodic refreshment courses, workshop, seminars and conference are essential part of the ongoing work and development of teachers training education in order to keep up with the current trends in the perception of continuous assessment. The effective training for teacher leads to perceive of continuous assessment for their teaching learning process. I analyzed it in the following table.

Table 3 In-service and pre service background training teachers on CA

No	Description	Alternative	Teachers respond	
			No	%
1	Training taken on CA in pre service	Yes	8	40
		No	12	60
2	Training taken on CA through in service	Yes	6	30
		No	14	70
3	Training days given for CA through in service program	One day	8	40
		Three day	6	30
		A week	6	30
		A month	0	0
		If any others	0	0
				No=20

As shown in table 3, concerning CA training taken in the pre service, 40% of the respondents replied that they took courses, where as 60% indicated that they did not taken assessment course. The in-service training that was given in the school (working place) shows that 30% of them received and 70% replied that they did not take any training.

Regarding the duration of the training data obtained from teachers indicated 40% replied that the training was for one day only 30% responded three days and 30% replied that they got for a week and no one received training for a month and above or different from the alternatives. They said that most of the teachers did not take training on CA in the pre service and in service training.

They told that they were in need for more training for effective usage of CA as the training period was very short and not practical and not continuous. In addition to this, they responded that without having appropriate training, CA cannot be effective. Concerning the importance of training for teachers contrary to these findings, Borich (1988:3) also stressed about the importance of training for CA.

In service training, such as work sheets, seminars, and conferences are essential parts of the ongoing work and development's of teachers training education in order to keep up with current trend in the application of CA. In relation to this, Neaum and Tallach (1997:55) added also the same ideas with the previous educators but opposite from our findings because instructors were not having basic and appropriate training for CA implementation. Generally, the effective implementation of CA depends on continuous assessment and practical training of teachers and students. If this is so there will be progress on learning and implement in instructional process

What are the Perception of teachers about CA?

The data collected from the questionnaire using attitude scale are reported in table 3. To make analysis simple form presentation the 5 point attitude likert scale is condense into mean and standard deviation as indicated below

Table 4: Summery of teachers' perception about CA

No	Title	N	M	SD
1	I believe continuous assessment helps for the students	20	3	1.65434
2	I don't believe continuous assessment helps for the students	20	2.9	1.80351
3	I feel that I am well trained to put practice continuous assessment in the class room	20	3	1.33771
4	I dislike using continuous assessment because it requires me to do more work that demands more time	20	2.95	1.84890
5	Continuous assessment improves students participation in the subject	20	3.3	1.41793
6	Continuous assessment does not improves students participation in the subject	20	3.1	1.80351
7	continuous assessment frightens and disturbs the students	20	3	1.37649
8	continuous assessment does not frightens and disturbs the students	20	3.2	1.43637
9	Continuous assessment makes the teacher ready	20	3.15	1.30888
10	Continuous assessment makes the teacher busy	20	2.7	1.49032
	Total average Grand mean =		3.03	

From the table given above, the result that shows perceptions of teachers' about CA could be discussed below one by one.

For item 1 that is belief of continuous assessment for the teachers the result was showed Mean= 3 and SD= 1.65434 this means the teachers responded medium or neutral about continuous assessment. In item 2 teachers responded almost neutral. Since the result implies 2.9 are approaching to 3.From 5 likert scales shows that almost neutral. This means that teachers believe or not about the continuous assessment helps for their students. In the same way item no 3, 7 have a result M=3, the result was been medium or neutral according to the 5 likert scale the result was equal to 3. Therefore teachers have neutral perception on this item. On item No 6 (continuous

assessment does not improves students participation in the subject) has M= 3.1, which would be acceptable as almost neutral by teachers according to the scale. The result that show perception of teachers on continuous assessment frightens and disturbs the students which was listed on item No 8 would be M= 3.2, that is above the 5 likert scale which has almost neutral acceptance on this item. The researcher gets a result almost neutral for item No 9 from the above table with 5 likert scale which is continuous assessment makes teachers ready but for item No 10 (continuous assessment makes teachers busy) M= 2.7, which mean it is some extent below neutral according to 5 likert scale which as negative result, teachers did not agree with this idea.

However, teachers` perception of continuous assessment by descriptive statistics the average means values (3.03) suggested that the average values give almost neutral perceptions about continuous assessment in mathematics class. According to Puhl (1997) he discussed opposite ideas to this finding because positive perception of continuous assessment contributes largely to the full development of the learner potential if it is properly communicated. In line with this Ellington and Earl (1997) pointed out that continuous assessment enables pupils to be asserted in a better situation closely related to the real practice. Teshome (2011) stated teachers should accept continuous assessment as their own for its effective implementation.

According to Abiy.Y, (2013), He stated that teachers and students had a positive attitude towards continuous assessment and they assumed that they would practice it in the teaching learning process to promote students` intellectual, emotional and social interaction skills. In addition to this Brook hart (2002), Stated that teachers low interest or negative attitudes towards continuous assessment has contributed to poor assessment practice. All these imply that the teachers don't have a full understanding of the concept of continuous assessment and this partly contributes to the poor practice in schools. Nitko(1996) and Linn(2000) cited Birehanu (2004) stated that the new assessment program can succeed only if teachers accept it. If teachers do not have clear understanding of the idea of assessment and if they are not ready to accept the basic philosophy of the program, its implementation will be in question? Similar discussion are observed from the open- ended items of the questionnaire and the result from Mann-Whitney U test are also show teachers had a misconception about continuous assessment. More specifically, this implies teachers are not well aware of continuous assessment program and this in turn has an impact on the implementation.

In addition to this these study could show the significance difference in teacher perceptions of continuous assessment in mathematics class with respect to Age, Educational qualification, teaching experience and teaching work load as follow.

Is there a significance difference in teacher's perception of continuous assessment in mathematics class with respect to Age?

To analyze this question one-way ANOVA was used to compare mean differences age of the respondent in four age level.

Table 5: One way ANOVA on Teachers perception on continuous assessment with respect to Age (there are 4 categorical, 20-25, 26-30, 31-35 and ≥36years

Variable	Age level	N	M	SD	SE	F	p
Perception						.266	.849
	20-25	7	2.9714	.26904	.10169		
	26-30	6	3.0833	.13292	.05426		
	31-35	5	3.0200	.32711	.14629		
	≥36	2	3.1000	.28284	.20000		
	Total	20	3.0300	.23864	.05336		

The teachers were classified according to the following age group 20-25yrs, 26-30yrs,31-35yrs, and 36 and above years and table 6 above showed that the descriptive statistics(*See Appendix E*) of these teachers on perceptions towards continuous assessment according to age group. The teachers within the age group 20-25 years recorded slightly lower mean score (M= 2.9714, SD=.26904) than their counterparts within the age group 26-30years (M=3.0833, SD=.13292), teachers within age 26-30 years group (M=3.0833, SD=.13292) recorded higher mean score than their counterparts with age group 31-35years (M=3.0200, SD=.32711). While those teachers within age group 31-35years recorded lower mean score (M=3.0200, SD=.32711) than their counterparts within the age group 36 and above years (M=3.1000, SD=.28284).Basically this study did not approve before whether the perception level of teachers differs due to age group or not. However, these differences in mean scores of perception towards continuous assessment of mathematics teachers according to age group were subjected to one way ANOVA and the result in table 6 showed that

there was no statistically significant difference on mathematics teachers` perception toward continuous assessment (F=.266, P.= .849).Because the sig value 0.05 is lower than the p-value .849. This finding is supported by Adeney O.A et al, 2013 discussed that there was no statistically significant on STM teachers` perception of continuous assessment with respect to age group

The analysis of data revealed that there was no a significant difference in the teachers perception of continuous assessment in mathematics class with respect age level, (F= 0.266, p>0.05); indicating that P= 0.849 is greater than at 0.05 level of significance. Also, the mean (M) of each age level for perception of continuous assessment in mathematics class was showed certain difference in the study area. This because of different reason, the age level from 20-25 the mean value was less relatively the other category. This may be due to lack of awareness on perceptions CA .in the level between 26- 30 was better than the previous because of they become familiar with the subject matter as well as the teaching and learning process. But, in age level 31-35 the mean value show little difference from the second age level. This may be due to social life factors for teachers. The final category mean is better than the other. Since teachers have sustainable life in that area and they are much matured in order to have perception about continuous assessment in mathematics class. But, this mean difference does not have significance difference on perceptions of continuous assessment.

Is there a significance difference in teacher's perception of continuous assessment in mathematics class with respect to Educational Qualification?

To analyze this question one-way ANOVA was used to compare mean differences of educational qualification about perceptions of continuous assessment.

Table 6: One way ANOVA Result Teachers perception on continuous assessment with respect to Qualification (Educational qualification are 3 level Diploma BED and MED)

Variable	Educational Qualification	N	M	SD	SE	F	p
Perception						.657	.531
	Diploma	2	2.8500	.21213	.15000		
	BED	16	3.0562	.22794	.05699		
	MED	2	3.0000	.42426	.30000		
	Total	20	3.0300	.23864	.05336		

The result of the analysis summarized in table 7 and (see Appendix F) shows that significance differences were observed in schools` mean score and p- value depending on educational qualification. The teachers were classified according to the following Educational qualification Diploma, Degree and Master. The teachers within the teaching experience group Diploma recorded lower mean score (M= 2.8500, SD=.21213) than their counterparts within the educational qualification group degree (M=3.0562, SD= .22794)). While those teachers within educational qualification group Degree recorded higher mean score (M=3.0562, SD=.22794) than their counterparts within the educational qualification Master (M=3.0000, SD=.42426).However, these differences in mean scores of perception towards continuous assessment of mathematics teachers according to educational qualification group were subjected to one way ANOVA and the result in table 7 showed that there was no statistically significant difference teachers' perception of continuous assessment with respect to educational qualification. (F=.657, P. = .531).Because p-value 0.531 was greater than the sig. value 0.05.

According to A.Ebhomien etal. (2012), he discussed opposite ideas to this findings because teachers perception of continuous assessment towards qualification/experience is statistically

significant Furthermore, this study revealed that teachers' qualification/ experience in the practice of continuous assessment have effect on its implementation. I addition to this agreement with Egwu *et al*. (2009) who observed that poor experience/ qualification of mathematics teachers in *Benue* and *Ondo* States adversely affected the implementation of some aspects of the new mathematics curriculum in which continuous assessment is part.

The analysis of data revealed that there was no a significant difference in the teachers perception of continuous assessment in mathematics class with respect age level,(F= 0.657 , p>0.05); indicating that P= 0.531 is greater than at 0.05 level of significance. Because of the perception on CA in this study area was uniform in each educational qualification since the training which is given to the teachers was limited and it is not based on the level of educational qualification. In testing there was no any significance difference in educational qualification in *Dera woreda* General Secondary schools teachers' perception towards continuous assessment.

Is there a significance difference in teacher's perception of continuous assessment in mathematics class with respect to teaching experience?

In order to access such question in this study one way ANOVA was used to compare mean difference in the four category of experience.

Table 7 One way ANOVA Result Teachers perception on continuous assessment with respect to teaching experience (There are 4 level 0-3, 4-7, 8-11 and ≥12years)

Variable	Teaching Experience	N	M	SD	SE	F	p
Perception						2.300	.116
	0-3years	4	2.8500	.05774	.02887		
	4-7 years	10	3.1300	.17029	.05385		
	8-11 years	4	2.9000	.28284	.14142		
	≥12	2	3.1500	.49497	.35000		
	Total	20	3.0300	.23864	.05336		

The teachers were classified according to the following teacher's experience of years 0-3, 4-7, 8-11, and 12 and above years. The teachers within the teaching experience group 0-3 years recorded lower mean score (M= 2.8500, SD=.05774) than their counterparts within the teaching experience group 4-7 years (M=3.1300, SD= .17029), teachers within teaching experience group 4-7years (M=3.1300, SD=.17029) recorded higher mean score than their counterparts with teaching experience group 8-11 (M=2.9000, SD=.28284). While those teachers within teaching experience group 12 and above years recorded higher mean score (M=3.1500, SD=.49497) than their counterparts within the teaching experience group 8-11 years (M=2.9000, SD=.28284). However, these differences in mean scores of perception towards continuous assessment of mathematics teachers according to teaching experience group were subjected to one way ANOVA and the result in table 8 showed that there was no statistically significant effect of teaching experience group on mathematics teachers` perception toward continuous assessment. (F=2.300, Sig. = .116)

According to Egwu *et al*. (2009) who observed that poor experience/ qualification of mathematics teachers in *Benue* and *Ondo* States adversely affected the implementation of some aspects of the new mathematics curriculum in which continuous assessment is part but opposite from our findings.

The analysis of data revealed that there was no a significant difference in the teachers perception of continuous assessment in mathematics class with respect teaching experience F= 2.300, p>0.05); indicating that P= 0.116 is greater than at 0.05 level of significance. Because of the perception on CA in this study area was related respecting in each teaching experience level. From open ended questions most of teachers didn't understand CA. They know it simply as administering serious of paper test.

Is there a significance difference in teacher's perception of continuous assessment in mathematics class with respect to teaching workload?

To analyze this question one-way ANOVA was used to compare mean differences of teaching workload about perceptions of continuous assessment

Table 8 One way ANOVA Result Teachers perception on continuous assessment with respect to teaching workload (<10, 10-15, 16-21 and ≥22)

Variable	Teaching Load	N	M	SD	SE	F	p
Perception						20.444	0.000
	<10	2	3.3500	.07071	.05000		
	10-15	8	3.1875	.18077	.06391		
	16-21	10	2.8400	.09661	.03055		
	≥22	-	-	-	-		
	Total	20	3.0300	.23864	.05336		

Due to the numbers of period the teachers thought per week, they categorized as teachers educated <10, 10-15, 16-21, and 22 and above period/week showed that the descriptive statistics (See Appendix H) of these teachers on perceptions towards continuous assessment according to teaching period/week group. The teachers within the teaching period/week group <10 recorded higher mean score (M= 3.1500, SD=.07071) than their counterparts within the teaching period/week group 10-15 (M=2.9000, SD= .21876), While those teachers within teaching period/week group 10-15 recorded lower mean score (M=2.9000, SD=.21876) than their counterparts within the teaching period/week group 16-21 (M=2.9400, SD=.26268). However, these differences in mean scores of perception towards continuous assessment of mathematics teachers according to teaching period/week group were subjected to one way ANOVA of the above result in table 9 showed that there was statistically significant effect of teaching period/week group on mathematics teachers` perception toward continuous assessment. (F=20.444, Sig. = 0.000). So, we can conclude that teaching period/week had significant effect on teachers' perception of continuous assessment. Therefore, by the Tukey LSD post hoc tests we can see were the differences form the following table

Table 19: Significance difference of continuous assessment with respect to teachers` weekly teaching workload

Dependent Variable	Teaching load (a)	Teaching load (b)	Mean difference (a-b)	p
Perception	<10	10-15	.16250	.274
	10-15	16-21	.34750	.002
	16-21	<10	-0.5100	.036

The above table shows that significance difference of teachers' perception with respect to weekly teaching workload group. The mean difference between the groups is showed in the multiple comparison tables. When there are 3 classified unique comparisons for a variable. The significance difference of teachers perception of continuous assessment with respect to weekly teaching workload <10 and 10-15 is .274, weekly teaching workload 10-15 and 16-21 is .002 and weekly teaching workload 16-21 and <10 is .036.

From the above result we can conclude as weekly teaching workload increase teachers perception of continuous assessment decrease, while weekly teaching workload decrease, the teachers' perception of continuous assessment is increase.

4.3 Extent of assessment tools used.

There are different methods of continuous assessment in assessing students learning. The uses of these methods help the teachers to know each students understanding about the lesson.

Integration of assessment methods in course plan

Continuous assessment well practiced if it is integrated with the lesson delivered in the class. The following table discusses whether teachers integrate continuous assessment in their lesson or not by analyzing the data in percentage method.

Table 10: integration of assessment method in course plan

No	Implementation of CA	Alternatives	Teachers respondent	
			No	%
1	Using CA plan	Yes	14	70
		No	6	30
2	Using varieties of CA tools	Yes	8	40
		No	12	60
3	Frequency of incorporating	Always	3	15
	CA techniques in lesson plan	some times	13	65
		Rarely	4	20
		Not at all	0	0

No=20

As indicated in the above table 11, concerning usage of CA plan for lesson 70% reflected that they were using CA plan and the rest 30% respondents replied that they were not using CA plan Concerning the varieties CA tools used, 40% teachers replied that they were using different types of CA and 60% of them did not use varieties of CA tools.

Regarding the frequency usage of CA, 15% responded that they always incorporated CA in their lesson, 65% of them replied they sometimes used variety of CA devices and 20% responded that they rarely used different CA types in their lesson from the above table we can understand that CA planning were not the major problems for teachers. However during classroom observation most teachers did not have CA plan and did not use varieties of CA tools for their lesson. Partially some of them wrote on their course plan this shows that their plans were not seen in practice. Even though they told the researchers for using variety of CA, the duration was not in a continuous manner. As we have seen from their responses above half of the teachers used CA some times in their lesson plan. If they do not plan continuously, there will be a problem in the instructional process and it affects the changes that will be expected from teachers and students.

In addition, from the document and observation we can understand they did not use CA tools properly, and in some course plans, there is no assessment in their plan. The document like course plan and lesson plan were not prepared properly and this also affect learning activities and instructional process. This show that they are still far from the major purpose of CA, specifically

CA for learning progress and instructional improvement did not get attention. In relation to this Ellignton and Early (1977) stated that the CA is continuously planned and coordinated, there is a very real danger that students may not show progress in their learning and they added that it is not in line with a continuous manner the teachers cannot be develop. Generally, teachers were not in a position to use CA plan for their lessons and the training that was taken in the schools did not bring changes for CA implementations in the classrooms. The incorporations of CA are mostly occurred in the teaching learning process. Besides, it affects the quality of education on the other hand the change of behavior in teaching learning process will be checked only by means of assessment when it is not used properly, the learning and teaching process will not show any improvement.

To what extent the different assessment tools are used by teachers to assess their students overall performance in Mathematics

The Mann-Whitney U Test compares the distributions of ranks in two groups significance difference or similar of teachers and students towards practice of different assessment tools

Table11: **Mann-Whitney U Test result of *Continuous assessment Techniques used by Teachers (As reported by teachers and students)***

No	Item	Participant	N	Scales								Mean Rank	U	P
				Always		Sometimes		When necessary		Don't use				
				No	%	No	%	No	%	No	%			
1	Class Work	Teachers	20	1	5	9	45	10	50	0	0	56.03	910.500	.001
		Students	149	2	1.3	27	18.1	96	64.4	24	16.1	88.89		
2	Home Work	Teachers	20	4	20	8	40	8	40	0	0	34.60	482.000	.007
		Students	149	3	2	20	13.4	47	31.5	79	53	91.77		
3	Observation	Teachers	20	5	25	8	40	7	35	0	0	58.43	958.500	.000
		Students	149	23	15.4	34	22.8	52	34.9	40	26.8	88.57		
4	Oral Question	Teachers	20	10	50	6	30	4	20	0	0	32.60	442.000	.000
		Students	149	9	6	29	19.5	52	34.9	59	39.6	92.03		
5	Group Discussion	Teachers	20	2	10	6	30	11	55	1	5	100.10	1188.000	.127
		Students	149	49	32.9	46	30.9	24	16.1	30	20.1	82.97		
6	Test	Teachers	20	3	15	9	45	8	40	0	0	62.45	1039.000	.047
		Students	149	19	12.8	41	27.5	52	34.9	37	24.8	83.63		
7	Presentation	Teachers	20	10	50	5	25	4	20	1	5	54.10	872.000	.001
		Students	149	24	16.1	31	20.8	15	10.1	79	53	89.15		
8	Peer Assessment	Teachers	20	3	15	3	15	13	65	1	5	90.63	1377.500	.568
		Students	149	30	20.1	43	28.9	49	32.9	27	18.1	84.24		
9	Self Assessment	Teachers	20	2	10	7	35	11	55	0	0	87.08	1448.500	.831
		Students	149	31	20.8	43	28.9	58	38.9	17	11..4	84.72		
10	Project Work	Teachers	20	0	0	7	35	8	40	5	25	121.53	759.500	.000
		Students	149	47	31.5	57	38.3	35	23.5	10	6.7	80.10		
11	Quizzes	Teachers	20	1	5	13	65	6	30	0	0	67.08	1131.500	.057
		Students	149	22	14.8	37	24.8	80	53.7	10	6.7	87.41		
12	Interview	Teachers	20	3	15	6	30	7	35	4	20	87.08	1448.500	.833
		Students	149	28	18.8	40	26.8	53	35.6	28	18.8	84.72		
13	Exam (Mid & Final)	Teachers	20	10	50	7	35	3	15	0	0	68.23	1154.500	.077
		Students	149	71	47.7	33	22.1	39	26.2	6	4	87.25		
14	Others	Teachers	20	0	0	1	5	8	40	11	55	36.60	522.000	.000
		Students	149	4	2.7	30	20.1	24	16.1	91	61.1	91.50		

From the above table teacher practice of CA tools, response get from teachers and students could discussed as follow .From item No 1(class work) the maximum result were gotten 10(50%) of teachers use class work when necessary to assess the students learning. But, from the total respondent 99 said sometimes in percentage it was 61.1% .this indicate that teacher practice CA using class work is not always but they used sometimes. From this data the mean rank between teachers and students (MR= 56.03, 88.89 respectively) is very high. Then, the result from Mann-whitney Test (U= 910.500, P=0.01) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. It shows that participants have deficit of awareness concerning the use of class work techniques in continuous assessment.

Concerning item No 2 (Teacher practice of CA by giving home work for their students) teachers responded is sometimes or when necessary that is 8 respondents out of 20 .in percentage it is 40%. But, students replied that teachers use always home work. This showed on the table from the total respondent 79 and has percentage54%. From this data the mean rank between teachers and students (MR= 34.60, 91.77 respectively) is very high. Then, the result from Mann-whitney Test (U= 482.000, P=0.07) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. This indicates that participants have insufficiency of awareness concerning the use of home work to assess student's performance as a tool for continuous assessment.

Using observation as a tool for practice of CA by teacher the response gotten from students 34.9% was sometimes. This result is maximum from the total respondent 52 choose it. In the same way teachers replied observation is used sometimes in assessing students learning. About 8 of 20 that are 40% teachers responded this observation. The mean rank between teachers and students (MR= 58.43, 88.57 respectively) is very high. Here, the result from Mann-whitney Test (U= 958.500, P=0.000) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. This indicates that participants have lack of awareness concerning the application of observation to assess student's performance as a tool for continuous assessment.

Result that shows in the above table on item No 4 (Oral questions) 149 students were asked to respond whether teacher use oral questions to practice CA to assess their students learning. 59 are responded always which is 39.6%. About 10 teachers replied that teachers use oral question always in percent it is 50%. The mean rank between teachers and students (MR= 32.60, 92.03 respectively) is very high. Here, the result from Mann-whitney Test (U= 442.000, P=0.000) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. Thus, if confirms as that there is no similar way of using oral question to assess student's learning as a technique for continuous assessment.

Concerning group discussion which is listed on item No 5 to assess students learning as practice of CA tool, 20 teachers were asked to answer this question. Thus, 11 (55%) of teachers used group discussions when necessary. But, students replied that 49 (32.9%) teachers use group discussion for practice continuous assessment always. When compare the mean rank between teachers and students (MR= 100.10, 82.97 respectively) show that small difference. With this result, from Mann-whitney Test (U= 1188.000, P=0.127) of the significance level of 0.05 revealed there is no statistically significance difference between teachers and students response. It shows that participants have an awareness concerning the use of group discussion techniques to assess student's learning.

Regarding test, respondents were asked in item No 6 of the above table, whether teachers used test as a tool to practice of CA to assess students learning or not. As a result 9 (45%) of teachers replied that teachers is used test to evaluate their student learning sometimes. In another way, 52 that are 34.9% students give their response that, teachers used test to assess their students learning when necessary. Regarding this, the mean rank between teachers and students (MR= 62.45, 83.63 respectively) it has a quantity of difference. With this result, from Mann-whitney Test (U= 1039.00, P=0.047) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. It shows that participants have a slight of an awareness concerning the use of group discussion techniques to assess student's learning.

In item No 7 of the table, participants were asked how presentation used as a tool for practice of CA by teachers. Thus from 20 respondent teachers 10 which is 50% replied that teachers is used presentation in practice of CA to now their students learning always. But, students maximum respond show that teachers don't used presentation to assess students learning. Concerning this, the mean rank between teachers and students (MR= 54.10, 89.15 respectively) it has a difference mean rank. In this case, Mann-whitney Test (U= 872.000, P=0.001) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. It means that, participants have no similar awareness about implementation of presentation techniques to assess student's learning.

As it is shown in the above table, of item No 8 peer assessment was raised as questions for participants whether teachers used it in practice of CA during teaching process or not. As a result 13 teachers in percent 65% and 49 students out of 149 in percent 32.9% replied teachers used peer assessment to assess their students learning in mathematics class when it is necessary. Concerning this, the mean rank between teachers and students (MR= 90.63, 84.24 respectively) is more approach to each other. In this case, Mann-whitney Test (U= 1377.500, P=0.568) of the significance level of 0.05 revealed there is no statistically significance difference between teachers and students response. It means that, participants have similar awareness about implementation of peer assessment techniques to assess student's learning.

Percipients were again requested in item No 9 on the above table, whether teachers used self assessment for practice of CA in mathematics class in the selected school. As a result, out of 20,11(55%) and from 149, 58(38.9%) teachers and students respectively answered that mathematics teachers in such school used self assessment as practice of CA tool when necessary. The mean rank between teachers and students (MR= 87.08, 84.72 respectively) is more approach to each other. In this case, Mann-whitney Test (U= 1448.500, P=0.831) of the significance level of 0.05 revealed there is no statistically significance difference between teachers and students response. In similar case, participants have similar awareness about implementation of self assessment techniques to assess student's learning.

According to item No 10 in the table, project work was used by teachers to assess students learning in mathematics class. Thus 8(40%) mathematics teachers replied that teacher used this item when necessary. But, from 149 students participant, 57(38.3%) answered that; teachers used project work sometimes to assess students learning. The mean rank between teachers and students (MR= 121.53, 80.10 respectively) there is quantitative difference to each other. In this case, Mann-whitney Test (U= 759.500, P=0.000) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. Thus, participants have lack awareness about implementation of project work techniques in continuous assessment

In item No 11 of table, participants were also asked how often Quizzes techniques of continuous assessment is used in assessing students learning. Thus, Quizzes, 13(65%) of teachers responded Quizzes is sometimes used in assessing students activity. In other way 80(53.7%) of students replied that teachers used Quizzes when necessary assessment students learning. The mean rank between teachers and students (MR= 67.08., 87.41 respectively) there is quantitative difference to each other. Regarding the result, Mann-whitney Test (U= 1131.500, P=0.057) of the significance level of 0.05 revealed there is statistically significance difference between teachers and students response. Thus, participants have lack awareness about implementation of Quizzes techniques in continuous assessment. There is no statistically significance difference between teachers and students response. From this finding indicates participants have the same understanding about the use of Quizzes as continuous assessment techniques.

Regarding the use of Interview, 7(35%) of teachers and 53(35.6%) of students responded that interview is used when interview necessary in assessing students learning. The mean rank between teachers and students (MR= 87.08, 84.72 respectively) more near to each other. Concerning, the result of Mann-whitney Test (U= 1448.500, P=0.833) of the significance level of 0.05 revealed there is no statistically significance difference between teachers and students response. It shows that participants have awareness concerning the use of interview assessment techniques in continuous assessment.

As it shown in table above of item No 13 participants were asked how often teachers were use exam (mid and final) in assessing students learning continuously. Hence 10 (50%) of students

and 71 (47.7%) of students participants respectively responded that exam (mid & final) is used always in assessing students learning. but, mean rank between teachers and students (MR=68.23., 87.25 respectively) there is quantitative difference to each other. The result from Mann-whitney Test (U= 1154.500, P=0.077) is no statistically significance difference between teachers and students response. From this finding we can conclude that participants have awareness concerning the use of Exam (mid& final) to assess achievement of the students.

In general, the result of the above table shows that the teachers were not used different assessment method and techniques of continuous assessment. However, this conception does not give a clear meaning of the term CA in its true aim and objectives As paul (1997), group discussion, quizzes and exams are only few devices of CA, in another aspects, other than these should be considered to speak to the right meaning of CA. this idea is directly opposite to the practice of the school teachers. Most of the teachers' respondent felt that CA is simply administering series of paper exam to their students rather than using different type of continuous assessment techniques. The practice however is highly criticized by educators. Pap worth (2005) stated that teacher's reliance on testing denies many learners the opportunity to demonstrate their true potential. Regarding the use of limited CA tools, Nitko (2005) stated opposite ideas to this finding because he stated that different tools help teachers to find out what students already know and can do, which part of the lesson are difficult to students are lagging behind and strength and weakness of students. In addition to Freedman (1998), continuously assessment other than test of examination must include varied assessment tools such as presentation, project works, interviews, observations, oral questions, home works, and similar other kind the validity of our decision is greatly improved when we use a variety of assessment methods for gathering and interpreting student's information.

The result from interview and observation is also show the practice of CA in the high school context is unmanageable for a number of reasons. If this is so it will be a challenge to see progress on learners because what they have received by few tools will be limited for their development, and secondly it will be difficult to improve the instructional process because the process will be changed when there is full active activities on the part of the learner potentials and teachers skill of teaching. Generally, the use of few CA tools for students progress and for

instructional improvement will contribute less so the more we use effectively, the more potential of the learners will be developed and the instructional process will also be improve

Classroom observation

Class room observation helps us to see the various interaction the teachers and instructional aid if any and student's interaction between among them in the classroom

Table 12: Class room observation results

No	Items	Alternative and responded			
		Yes		No	
		No	%	No	%
1	Use appropriate CA plan	5	25	15	75
2	Used variety of CA tools	6	30	14	70
3	CA related to lesson objective	7	35	13	65
4	Give information about assessment	6	30	14	70
5	Encourage students to assess their own work	9	45	11	55
6	Class room environments suitable for CA				
	Arrangement of desk	4	20	16	80
	Student teachers ratio	3	15	17	85
	Motivation to teaching	7	35	13	65
				N= 20	

.

Class room observation was conducted with the help of check lists which included 6 categories of assessment instruction. As shown in table 13 it was understood as arrangement of desk, student teachers ratio, and motivation to learning, motivation to teaching and shortage of time are challenges for the implementation of CA and teachers are not familiar to use appropriate CA plan, to use variety of CA tools, to give information and encourage students to assess their own work. Hence, most of teachers during observation did not use variety of continuous assessment in their class.

In over all, if the above points are not practiced, continuous assessment could not be effective and progress in learning will be invisible and no improvement in instruction. In favor of this, Paris, et al. (1991) stated that assessment and instruction are inseparable and are support of each others. During open ended questions, most teachers replied that is was very hard to make CA effective because there were a lot of constraints that make them unable to do this program like large class size and shortage of time. So it needs more effort to make effective in educational activities. Finally, it was generalized as there was a great problem in implementing CA in these schools.

4.4 Provision of Feedback to the student

Feedback is a good practice if assessment procedures provide comments to students about their learning. In order to improve learning by feedback, learners must be given chance to review both correct and incorrect performances

Responses of teachers and students on the provisions of feedback on continuous assessment activities

The Fisher's Exact test was used for statistical testing for independence in a 2x2 design. If the significance value is <.05, then the result is statistically significant; if the significance value is≥.05 then the result is not statistically significant .The below table represents that the output from Fisher Exact test analysis.

Table 13:Fisher`s Exact test result based on Continuous assessment feedback used by Teachers (As reported by teachers and students)

No	Item	Response	Participant category				Total			
			Teachers		Students				Fishers value	p
			N	%	N	%	N	%		
1	Feedback								682	0.471
		Yes	14	70	90	60.4	104	61.5		
		No	6	30	59	39.6	65	38.5		
		Total	20	100	149	100	169	100		

Regarding feedback provision, as indicated, as shown in table 14, item 1 above students' participants required to reply whether they given feedback or not. Thus, 90(60.4%) give their response as feedback is given for them. In case of teachers 14(70%) of them replied that they give feedback for students. The result from Fisher's Exact test significance value was 0.471.

Since the Fisher value is 686 and the p value was 0.471 >0.05 indicated that no statistically significant difference between teachers and students feedback of continuous assessment in mathematics class. The result from questionnaires, observation and document analysis is also show the feedback of CA in the high school context teachers, the students reported that their teachers encourage them participate in the classroom activities especially in group discussion and Class work. This also indicated their teachers' implementation of CA devices other than quizzes and test had given them chances to improve social relations and some skills. On the other hand students raised a number of weaknesses about their teacher's practice of CA. In open ended questionnaires they reported that their teachers did not give them comprehensive feedback that could improve their skills.

Recently, what they did in our Woreda is that the assessment percent, i.e. formative evaluation to 30% and the summative evaluation to 70%. Almost at the end of the semester and some teachers were seen checking exercise book out of 10% and most probably they tried to give one Group assignment . These entire make 100% of the semester. Here, what they did not give attention was the formative continuous assessment. This shows that they are still far from the major purpose of CA, specifically CA for learning progress and instructional improvement did not get attention.

They also indicated that the teachers were not well planned and they did not keep their records properly. As to this, most students stated that teachers did not collect, make and give feedback to their assignment activities even they did not give them compare feedback to their work, they did not get advantages they should have got from the process of CA. According to Black and William (1998) , stated that formative feedback illuminates students strength and weakness provides some suggestion for improvement and avoids comparing one students with his or her peers. As result, the teachers were not giving sufficient feedback to students in teaching learning

process. Positive feedback can help students` academic performance and individual competitive in the classes this statement was supported by the above researcher.

4.5 Factors affecting the implementation of continuous assessment

What are the factors that affect the implementation of continuous assessment in your school?
To analyze the data in this research descriptive static method was used to rank the mean value.

Table 14: factors that affect the implementation of continuous assessment

	Rank										
Variable	1	2	3	4	5	6	7	8	9	Total	M=∑fixi/N
Class size	9	2	3	1	1	2	-	1	1	20	3
Attitude of students to continuous assessment	2	4	2	2	3	3	2	-	2	20	4.45
Shortage of time	4	6	-	-	1	4	4	-	1	20	4.1
Lack of awareness (knowledge)	1	3	2	3	2	2	1	3	3	20	5.25
Shortage of teaching materials	1	-	2	3	2	1	2	3	6	20	6.35
Burden of the teachers	-	1	4	3	1	2	5	3	1	20	5.55
Attitude of teachers to continuous assessment	1	1	2	3	3	1	1	4	4	20	5.45
Readiness of students	-	2	4	4	6	1	2	1	-	20	4.5
Achievement of students	2	1	1	1	1	4	3	5	2	20	5.95
Total	20	20	20	20	20	20	20	20	20		

From the above table it is possible to see that teachers put the level of factors of continuous assessment from highly negative to low. Based on these

1. Class size
2. Shortage of time
3. Attitude of students to continuous assessment
4. Readiness of students
5. Lack of awareness (knowledge)
6. Attitude of teachers to continuous assessment
7. Burden of the teachers and
8. Achievement of students
9. Shortage of teaching materials

Similar discussion are observed from open ended questionnaires and observations almost the entire respondents replied that is was very hard to make continuous assessment effective because there were a lot of constraints that make them unable to do this program like class size, shortage of time and attitudes from students and teachers so it needs more effort to make it effective in educational activities

Regarding this issues many of all of interviewed participants shared the idea that large class size has a problem during the implementation of continuous assessment.

Gebeyehu one of the interviewed school director said

In our school for example there are 65 students in one class. Imagine you, if a teacher wants to access his students with in one period giving a one- minute chance for single student, nearly he needs two periods to cover the whole assessment of a single subject. This long period given for similar activity makes the learner to become fading up and create disciplinary problems during their continuous assessment.

In connection with this, Tolosa one of the respondents said

From many challenges related to the implementation of learners' CA in large classroom is; it takes more time to ask oral question, written, class work or any related activities to access the learners' one by one or in group.

In general, the result of the above shows different problems to implement continuous assessment. In conformity with these findings, Ellington & Earl (1997); Papworth (2005) stated that large class size is the major limiting factor that affects the use of continuous assessment. In addition kapamblue, (2006), stated that the major challenge to give continuous assessment in the classes is large class size.

Similarly, Hayes (1997) underlined the problem of large class size for teachers' in terms of classroom management and assessment of students work.

At this point, it is no hard to understand that assessing large group of students in the classroom is big challenge for teachers of course, the optimal class size which is targeted by MOE is 50.Despite this; the actual situation is far from what was targeted. As the finding of this study indicated, teachers reported that shortage of time is a challenge for them to effectively handle continuous assessment. In regarding this, Sarawar (2001) identified shortage of time as a problem that teachers and students face to carry out each and every element of the continuous assessment strategy.

More specifically, the respondents justified that the lesson is given by plasma and work load contributes to the poor assessment practice in their school context. This explanation gives the impression that continuous assessment demands more time and commitment on the part of teachers and students for its effective implementation. In spite of this fact, it is believed that shortage of time as a challenge can be overcome by care full planning. As outlined in ICDR (2004), assessment must be planned and coordinated activity to come up with a good practice.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATION

This Chapter outlines the summary, conclusion and recommendations of the study based on the research findings

5.1 SUMMARY

The main purpose of this study was to assess the perception and practice of CA in Dera woreda secondary and preparatory schools. For the achievement of these objectives the following basic questions were raised.

1. What are the perceptions of teachers about continuous assessment?

2. To what extent the different assessment tools are used by teachers to assess their students overall performance in Mathematics?

3. Do Mathematics teachers give immediate provision of feedback?

4. What are the major factors that influence teachers practices related to continuous assessment?

In order to answer the above questions, descriptive research method was employed. The data relevant to the study were collected through questionnaire, interview, classroom observation and document analysis.

In analyzing the collected data, quantitative method were analyzed using descriptive statistics, one way ANOVA, Fisher's Exact test and Mann-Whitney U test and qualitative method was employed for interview, open ended questionnaire, observation and document analysis were analyzed and described in words.

Based on the analyzed data, the following major findings were obtained.

Findings of the study

- Most participants had incomplete understanding about CA in that they concentrated on summative components of assessments. Some of the teachers, however, clearly understand CA but they didn't practice it in the classroom of their view.
- Most teachers did not include a variety of CA tools in their plan and did not use in the classroom activities.
- The study also revealed that class size and shortage of time are the highest problems for implementing CA.
- Most of the respondent felt that CA is simply administering series of paper test.
- Most teachers did not take short training about continuous assessment during their schools.
- Most teachers were not giving sufficient feedback to students in teaching learning process.

5.2 CONCLUSIONS

The following conclusions were made based on the major findings of the study

- The perception of teachers of concerning continuous assessment is almost neutral because the mean value is 3.03.
- The study concluded that teachers' age, gender, professional qualification and teaching experience did not have significance effect on perception of continuous assessment. However, teachers` weekly teaching workload significantly affected on perception of continuous assessment.
- On the basis of the discussion and the findings raised in the study, the researcher has been used to show that teacher perceptions, Concerns feelings and idea can be related to the successful implementation of the findings. Since, the findings generated in the study shows as there is a problem in implementing CA, greater and more attention needs to be paid to teachers and principals' performance in these schools.

5.3 RECOMMENDATION

Based on the above findings the following recommendations were forwarded

1. The principals and Education office should frequently organize workshops, seminars and conferences for serving teachers on the practice of continuous assessment in schools

Specifically the training should focus on

- ✓ Selected and challenged topics from each course those were not easy for CA implementation.
- ✓ How and when to provide feedback for students.
- ✓ How and when to practice self and peer assessment.
- ✓ How to use CA plan.
- ✓ How to prefer CA related to the objective and etc.

Therefore, Practice and intensive training for teachers and should be provided to change their knowledge, attitude and skills of CA.

2. The findings of the study revealed that lack of monitoring and evaluating by the school principal as well as by ministry of official was lacking. It was fact that CA can be a major contributor to the change process itself. It is therefore better that school administration and the ministries of education formulate policies and give sufficient training to monitor and evaluate CA and avoid large class size

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Appendix A

Addis Ababa University

College of Education and behavioral studies

Department of Science and Mathematics Education

Questionnaire of Teachers

The purpose of this questionnaire is to obtain information about Teachers' perception and practices of continuous assessment in Mathematics Class in Oromia region North shoa zone Dera woreda .so you are kindly requested to respond to all statement or questions based on the instruction given your information is used only for research purpose and is that for kept confidential.

Thank you very Much for your cooperative

Part I General information

1. Name of school _____

2. Sex M_____ F _____

3.Age a, 20-25 years b, 26-30 yrs c, 31-35 yrs d,36and above

4. Your qualifications

I, Diploma ii, BED/BSC iii, MED/MSC Iv please indicate if the other than the above

5. Teaching experience in the high school

a, 0-3yrs b,4-7yrs c,8-11yrs d,12-16yrs e,17 and above

6. Teaching period per week

A, below 10 B, 10-15 C, 16-21 D, 22 and above

Part II The main data information

Circle the letter which you think of the answer and give explanation where it is required

1. Have you taken a course about assessment particularly in continuous assessment in pre service program?

A. yes B .No

2. Did you take any training on the implementation of continuous assessment in your in service program? A. yes B. No

3. in your answer for question number 2 is ``yes`` for how many days did you take a course?

A. one day B. three day C. a week D. a month e. if any other specify _____

4. Did you use continuous assessment plan in your lesson? A. yes B. No

5. If your response for questions no 4 is ''yes'' why?(Circle the answers if there are more than one answer)

a) To assess and improve the students learning activity
b) To know how much the students understand the content

c) To develop the students participation

6. If your response for questions number 4 is" no "why? (Circle the answers if there is more than one answer)

a) It takes time and the lesson is given by plasma
b) Shortage of materials
c) Large class size
d) Lack of awareness
e) Specify if there are others

7. How often do you in corporate continuous assessment techniques in to your lesson plan?
A. always B. some times C. rarely D. not at all

8. Did you use different type of continuous assessment in the teaching and learning to assess your students learning?
a, Yes b, No

9. How often do you involve your students in the assessment process?
A, always b, sometimes c, rarely d, not at all

10, do you provide feedback to your students?
a, yes b ,No

11. if your response for questions number 10 is "yes" what was its frequency?

a) In each continuous assessment tasks
b) When test paper returned to the students
c) At the end of the semester/course

13. If your response for question number 10 is "no" what was your reasons? (Circle the answers if there is more than one answer)

a) Lack of time to cover the topic
b) No need for feedback
c) Students are not interested when you told their weakness
d) If any others _____

14. In assessing your students performance is there any guiding principles supplied by the school
a, yes b, No

15. What is the document you use to manage and implement continuous assessment in your school?

a) Only assessment format given from school
b) Assessment guide line developed at school level
c) Guide line developed at department level
d) No because I have got full professional development through past training

16. To what extent the school administration help teachers in implementing continuous assessment?

A, very high b, high c, average d, below average e, never

Part III ***<u>Give your response clearly</u>***

17. What is the state of continuous assessment practice in your school currently?

18. What are the factors that affect the implementation of continuous assessment in your school? (Put the space provided the priority from high negatively influence to low

_____

A. class size
B. attitude of students to continuous assessment
C. Shortage of time
D. Lack of awareness (knowledge)
E. Shortage of teaching materials
F. Barden of the teachers
G. Attitude of teachers to continuous assessment
H. Readiness of students
I. Achievement of students
J. Specify if others

_____

19. What should be done to improve the current practice continuous assessment practice in your school?_____

Part Iv: Teachers perception of continuous assessment **For each of the following alternative circle your answer** 1 =Totally Disagree 2 = Disagree 3 = undecided 4 =Agree and 5 = Totally agree						
1.	I believe continuous assessment helps for the students	1	2	3	4	5
2.	I don't believe continuous assessment helps for the students	1	2	3	4	5
3.	I feel that I am well trained to put practice continuous assessment in the class room	1	2	3	4	5
4.	I dislike using continuous assessment because it requires me to do more work that demands more time	1	2	3	4	5
5.	Continuous assessment improves students participation in the subject	1	2	3	4	5
6.	Continuous assessment does not improves students participation in the subject	1	2	3	4	5
7.	continuous assessment frightens and disturbs the students	1	2	3	4	5
8	continuous assessment does not frightens and disturbs the students	1	2	3	4	5
9	Continuous assessment makes the teacher ready	1	2	3	4	5
10	Continuous assessment makes the teacher busy	1	2	3	4	5

Part V Indicate by ‘’ √ ‘’ tick the assessment techniques you use to assess your students on the space provided

No	Assessment method	Use always	Some times	When necessary	Don`t use
1	Class work				
2	Home work				
3	Observation				
4	Oral questions				
5	Group discussion				
6	Test				
7	Presentation				
8	Peer assessment				
9	Self assessment				
10	Project work				
11	Quizzes				
12	Interview				
13	Exam (mid and final)				

Appendix B

አዲስ አበባ ዩኒቨርስቲ
ድህረ-ምረቃ ትምህርት ቤት
የስነ-ትምህርትና ስነ-ባህርይ ጥናት ኮሌጅ
ሒሳብ ትምህርት ክፍል

የተማሪዎች መጠይቅ

የዚህ መጠይቅ ዋነኛ አላማው በኦሮሚያ ክልል ሰሜን ሸዋ ዞን ደራ ወረዳ የሒሳብ መምህራን ስለተከታታይ ምዘና ያላቸውን አቀባበል እና አተገባበር መረጃ ለማግኘት ነው። በመሆኑም ዉድ ተማሪዎች የናንተ ምላሽ ለጥናቱ ስኬት ያለዉ ሚና ጉልህ በመሆኑ ለተዘረዘሩት ጥያቄዎች ምላሽ እንድትሰጡልኝ ከልብ እጠይቃለሁ።

ክፍል አንድ ፡ አጠቃላይ መረጃ

1. የት/ት ቤቱ ስም _____

2. ጾታ ወ ☐ ሴ ☐

3. ክፍል ሀ 9ኛ ለ 10ኛ ሐ 11ኛ መ 12ኛ

ክፍል ሁለት ፡ ዋና መረጃ

ለሚከተሉት ጥያቄዎች ትክክለኛ መልስ የያዘዉን ፊደል በመክበብ ማብራያ ለሚያስፈልጉ ማብራሪያ በመስጠት መልሱ

1.አንተ ወይም አንቺ ተከታታይ ክንዉኖችን ለመስራት ፍቃደኛ ነህ/ሽ ሀ.አዎ ለ. አይደለም

2. ፍቃደኛ ካልሆንክ/ሽ ምክንያቱ ምንድ ነዉ

ሀ.ተከታታይ ምዘና ግዜን ያባክናል ለ.ይህ ዘዴ የተለያዩ ችሎታዎችን ለመመዘን አይረዳም

ሐ.በተለያዩ ቡድኖች ዉስጥ ሁሉም አኩል ተሳትፎ አያደርጉም መ.የግለሰቦችን ለዉጥ ለመመዘን ቴስትና አጠቃላይ ፈተና የተሻለ ስለሆነ

3.መምህራኖቻችሁ በክፍለ ጊዜያቸዉ የተከታታይ ምዘና ዘዴዎችን ይጠቀማሉ እንደ የግል ስራ፣ አቻ ምዘና፣ፕሮጀክት ስራ እና ወዘተ ይሉ ሀ. አዎ ለ. አይደለም

4.መምህራኖቻችሁ ስለምዘና የሚያሳዉቃችሁ ነገር አለ? ሀ. አዎ ለ. አይደለም

5. እናንተ እርስበርሳችሁ ምዘና እንድታኬዱ እድል ይሰጣችኃል? ሀ. አዎ ለ. አይደለም

6 የ 6ኛ ጥያቄ አዎ ከሆነ በምን አይነት ሁኔታ እና ምን አይነት ክንዉኖች ነዉ?

_____

7.ተከታታይ ምዘና ከተካሄደ በኃላ ፈጣን የሆነ መልስ ምገባ /feedback ይሰጣችኃል? ሀ. አዎ ለ. አይደለም

8 የ 8ኛ ጥያቄ መልሳችሁ አዎ ከሆነ ድግግሞሹ ምን ያህል ነዉ?

ሀ. በእያንዳንዱ የተከታታይ ምዘና ክንዉን ለ. ለተማሪዎች የፈተና ወረቀት ሲመለስ ሐ.በመንፈቅ ዓመቱ መ. ሌላ ካለ ጻፉ_____

ክፍል ሶስት፡ መምህራኖቻችሁ የሚጠቀሙዋቸዉን የምዘና ስልቶች በተሰጠዉ ክፍት ቦታ ላይ ' √ 'በማድረግ አሳዩ

ቁጥር	የምዘና ዘዴ	ሁል ግዜ ይጠቀማሉ	አልፎ አልፎ	አስፈላጊ በሆነ ግዜ	አይጠቀሙም
1	የክፍል ስራ				
2	የቤት ስራ				
3	ምልከታ				
4	የቃልጥያቄ				
5	የቡድን ዉይይት				
6	በየወሩ የሚሰጥ መፍራ				
7	ገለጻ				
8	አቻ ምዘና				
9	የግል ምዘና				
10	የፕሮጀክት ስራ				
11	ከ ድንገት የሚሰጥ ፈተና				
12	ቃለ ምልልስ				
13	አጠቃላይ ፈተና				

Appendix C

Interview with schools principals

Part I General information

Sex_____ Qualification _____

Age _____ Years of Experience _____

Part II main data information

1. What are the major problems that hinder the implementation of CA in your schools?

2. What do you think are the attitude of most of the schools teachers towards CA in the schools?

3. Does the school provide guidelines, formats and necessary materials to facilitate CA implementation?

4. What do you say about contribution of CA for instructional improvement?

Appendix D

Classroom Observation Checklists for the implementation of Continuous assessment

Part I General information

1. Name of the School_____

2. Name of Observer_____

Date_____

Subject_____

Grade_____

Part II Class room observation checklists put `√`mark on the space provided your response yes or No

No	Item of observation	Alternative and responded	
		Yes	No
1	Used appropriate CA plan		
2	Used variety of CA tools		
3	CA related to lesson objective		
4	Give information about assessment		
5	Encourage students to assess their own work		
6	Class room environments suitable for CA		
	• Arrangement of desk		
	• Student teachers ratio		
	• Motivation to teaching		

Appendix E

Table 4 Descriptive statistics (age)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
20-25	7	2.9714	.26904	.10169	2.7226	3.2202	2.70	3.40
26-30	6	3.0833	.13292	.05426	2.9438	3.2228	3.00	3.30
31-35	5	3.0200	.32711	.14629	2.6138	3.4262	2.70	3.50
>=36	2	3.1000	.28284	.20000	.5588	5.6412	2.90	3.30
Total	20	3.0300	.23864	.05336	2.9183	3.1417	2.70	3.50

Appendix F

Table5 Descriptive statistics (Educational qualification)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Deploma	2	2.8500	.21213	.15000	.9441	4.7559	2.70	3.00
BED	16	3.0562	.22794	.05699	2.9348	3.1777	2.80	3.50
MEd	2	3.0000	.42426	.30000	-.8119	6.8119	2.70	3.30
Total	20	3.0300	.23864	.05336	2.9183	3.1417	2.70	3.50

Appendix G

Table 6 Descriptive statistics (teaching experience)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0-3	4	2.8500	.05774	.02887	2.7581	2.9419	2.80	2.90
4-7	10	3.1300	.17029	.05385	3.0082	3.2518	2.90	3.40
8-11	4	2.9000	.28284	.14142	2.4499	3.3501	2.70	3.30
>=17	2	3.1500	.49497	.35000	-1.2972	7.5972	2.80	3.50
Total	20	3.0300	.23864	.05336	2.9183	3.1417	2.70	3.50

Appendix H

Table 7 Descriptive statistics (weekly teaching workload)

Teaching period/week	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
<10	2	3.3500	.07071	.05000	2.7147	3.9853	3.30	3.40
10-15	8	3.1875	.18077	.06391	3.0364	3.3386	3.00	3.50
16-21	10	2.8400	.09661	.03055	2.7709	2.9091	2.70	3.00
Total	20	3.0300	.23864	.05336	2.9183	3.1417	2.70	3.50

Appendix I

Normality

Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error
VAR00001	30	2.00	4.00	3.1000	.10000	.54772	.081	.427
VAR00002	30	2.00	4.00	3.3333	.13841	.75810	-.660	.427
VAR00003	30	1.00	4.00	3.1667	.17993	.98553	-.051	.427
VAR00004	30	1.00	4.00	3.1000	.16153	.88474	-.525	.427
VAR00005	30	2.00	4.00	3.0333	.13965	.76489	-.058	.427
VAR00006	30	1.00	4.00	3.3333	.16838	.92227	-1.006	.427
VAR00007	30	1.00	4.00	2.7667	.22835	.25075	-.318	.427
VAR00008	30	1.00	4.00	3.0333	.19466	.06620	-.802	.427
VAR00009	30	1.00	4.00	2.5000	.17120	.93772	-.134	.427
VAR00010	30	1.00	3.00	2.0333	.12208	.66868	-.037	.427
VAR00011	30	1.00	4.00	2.7000	.10881	.59596	-.859	.427
VAR00012	30	1.00	4.00	2.7667	.18988	.04000	-.285	.427
VAR00013	30	1.00	4.00	2.3000	.12821	.70221	.421	.427
Valid N (listwise)	30							

Reliability Statistics

Cronbach's Alpha	N of Items
.761	13

Declaration

I, undersigned, hereby declare that thesis is my original work done under the guidance Mulugeta.A (PhD)

Name Tefera Gashaw Signature_____

Date_____

This thesis has been submitted for the examiners with my approval as a university advisor

Mulugeta.A (PhD) Signature _____

Date_____

September 2014

Addis Ababa University