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# Teachers' Perception and Practices Towards Continuous Assessment of Mathematics Classes: The Case of Secondary School in Wolaita Zone, Snnpr Region

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**Abstract**
Now-a-days a paradigm shift in the educational system from teacher-centered to the modern mode of active learning is getting progress. Along with this, the issue of continuous assessment has been addressed to maintain the quality of education. This study is aimed at investigating how high school mathematics teachers have perceived continuous assessment, looking into how it is being practiced and finding out the major problems encountered during its implementation in mathematics teaching. The subjects of this study were mathematics teachers from purposively selected high schools in Wolaita Zone in SNNPR Region. By availability sampling procedure, all private high schools were also included in this study. As tools of data collection, questionnaire, informal interviews and focus group discussion were employed. The data were analyzed using methods of descriptive statistics and Linkert type scale. Linkert type of scale results revealed that the frequency of continuous assessment practice was affected by various factors. Class size, Job commitment, Additional training, and additional incentives had a strong influence on frequency of continuous assessment practice. With regard to the perception, the results revealed that most mathematics teachers viewed continuous assessment as an assessment strategy that is beyond testing though they do not use a variety of assessment techniques in their mathematics teaching. Moreover, the findings indicated that continuous assessment has not been fully practiced in high school mathematics teaching yet as desired. It was then concluded that even though a considerable proportion of mathematics teachers have a clear concept of continuous assessment, they do not use different arrays of it. In addition to this, continuous assessment has not been properly implemented in the selected schools. To overcome this, it was suggested that on the-job training and incentives to mathematics teachers as a means of motivation, reduction of the class size and adequacy of materials should be given prior attention.

**LIST OF ABBREVIATIONS**
CA Continuous Assessment
ETP Education and Training Policy
FGD Focus Group Discussion
HDP Higher Diploma Program
ICDR Institute of Curriculum Development and Research
MOE Ministry of Education
NOE National Organization for Examination
SNNPR Southern Nations Nationalities Peoples Region
TESO Teacher Education System Overhaul
WZSS Wolaita Zone Secondary School

## 1. INTRODUCTION

Education is a crucial instrument that contributes to all aspects of the country's progress. It has a great effect on the students' life in establishing their sense of citizenship and preparing them for the world of work. However, realizing the potential of the students depends on the quality of education, particularly the quality of the curriculum.

Assessment is one of the elements of instructional process that plays an important role to improve learning in educational institution as part and parcel of instructional process. It is basic tools of education to check the awareness of learning on the part of the learners. Without assessment, it is difficult for educators to get refined information about the educational practices (Muluken. 2006). In light of this Arends (1997) contended that assessment usually refers to the full range of information gathered and synthesized by teachers about their students and their classroom so as to make decisions about learners and instruction.

In light of this, Airasian (1991) citied in ICDR (1999) contends that assessment is the process of collecting, interpreting and synthesizing information to help teachers to understand their pupils, plan and monitor instruction and establish a conducive classroom atmosphere. Similarly, Arends (1997) points out that assessment is the process of gathering and synthesizing information to make decisions about pupils and instruction. Reece and Walker (2003) have also defined assessment as the process of obtaining information about how many of the students know the importance of continuous assessment. In addition, Madaus and Kallaghan (1993) cited in the

ICDR (1999) that assessment in the classroom is highly based on teachers' observation of students as they go about their normal learning activities. For them, assessment is beyond testing and it involves observational techniques other than testing to collect information on overall students' performance.

The trend of using tests and examinations at the end of a semester or a year as a mere mode of assessment does not by itself prove the learners excellence in different aspects. In this respect, Mulu (2005) suggested that a onetime final examination or test does not bring a complete or true picture of student's performance including the higher order thinking skills. That is to say examination or test cannot measure all that the students learn because their effectiveness is limited to assess the entire complex learning outcomes. To overcome this, it will be much more helpful if the assessment is employed on a continuous basis using different strategies.

Therefore, one can say or easily understand that the significance of using continuous assessment in teaching and learning process to improve the quality of education is unquestionable. Supporting this idea, Brown and Knight (1994) and Gronlund (1981) pointed out that evaluating pupils learning on a continuous basis by focusing on basic instructional objectives plays important role in maintaining the quality of education.

Continuous assessment is apparently getting momentum. It is believed to be more valid, reliable and motivating than the traditional one off examination (Muluken 2006) these days.

In the Ethiopian context, the New Education and Training Policy gave emphasis on the use of continuous assessment. The aim of the new policy of continuous assessment in Ethiopia is to bring a paradigm shift from old aged traditional system of assessment that is a judgmental role in its orientation to developmental role. Hence, the new education and training policy of the country calls for the use of continuous assessment to realize the educational objectives. Despite the importance of the proper implementation of continuous assessment, it might not go beyond lip service. Therefore, assessing the status of the implementation of continuous assessment is found to be very crucial. Similarly, the newly designed TESO program has placed emphasis on the employment of continuous assessment in this country as it is one of the components of the program which deserves attention like active learning and Higher Diploma program (HDP). This shows how an attempt is made to address the issue of continuous assessment at different levels of the educational system as part of a shift in paradigm (Muluken. 2006).

So, this study will identify the perception and practice of continuous assessment in high school mathematics teachers and the major factors that influence the implementation of continuous assessment in mathematics teaching and provide a clue for decision makers for future improvements of perception and practice of continuous assessment.

### 1.2. Statement of the Problem

The teaching and learning process needs continuous follow up to achieve its objectives. Hence continuous assessment is essential to check the realization of instructional objectives. Traditional assessment method mainly focuses on testing which encourages superficial learning, but did not assess the wider skills of pupils. Hence, continuous assessment should be essential to measure learners' performance in a holistic manner.

In supporting this idea, Alause (2004) states that the educational progress of learners needs frequent assessment. The various aspects of learning activities of learners should be assessed by various methods. Therefore, to utilize all the techniques and procedures of continuous assessment, teachers need to have a profound knowledge of the application as well as the theoretical concepts such as types, forms, purposes and methods of assessment for the wellbeing of pupils.

Continuous assessment is a typical classroom based strategy which provides regular information about the teaching-learning process. Concerning this, Ellington and Earl (1997) suggested that continuous assessment is practiced on a day to day basis to judge the quality of the individual's work or performance.

Employing continuous assessment enables the teacher to assess more of the intended behavior of the students and to take note of factors such as their active participation, how articulate they are, their relationships with others and their motivation that have high educational relevance (Livingston. 2001).

Continuous assessment is a student evaluation system that operates at a class room level and is integrated with the instructional process. The essence in continuous assessment is not merely administering a number of paper and pencil test to pupils. Supporting this, Mulu (2005) reported that continuous assessment is a vehicle for improving students learning through remedial assistance. Continuous assessment is an ongoing process being used increasingly as an alternative to terminal examination because it provides more information that is more reliable than examination.

Taking all of these in to consideration, the MOE in Ethiopia introduced continuous assessment in different levels of the educational institution. As stated in ETP (1994), the practical task of implementing the new curriculum at school level requires continuous assessment as part of the curriculum in general and the instructional process in particular. To understand this, the role of teachers is of paramount importance. In other words, teachers should be well informed about the concept and procedures of practicing continuous assessment before they implement it. In relation to this, Teshome (2001) suggested that teachers' knowledge and attitude

should be considered for effective implementation of the assessment program. This show that how attention should be given to the perception of teachers if continuous assessment is practiced.

A teacher might interpret continuous assessment as continuous testing (Muluken, 2006). This wrong conceptualization of the term will affect the need to employ a variety of methods to assess the pupil's progress (Teshome, 2001). In addition, practical observation indicates that in many of mathematics classes there is large gap before test is given on the material already discussed in the class. This may lead the teachers to present the lesson in a way they think suitable for pupils which in turn create trouble on the side of the teacher as well as students because it is frequently too late to make up for the material that was missed on the contrary, teachers of other natural science subjects (i.e. Physics, Chemistry, Biology etc.) are often practicing continuous assessment in their classes; this might be due to the guiding nature of the subject matters. However, in Wolaita zone there is no empirical studies have been conducted so far to examine how far the continuous assessment is being practiced for mathematics at high school level and what factors are influencing continuous assessment. Considering this research gap, it is important, therefore, on the part of the investigator to look in to this problem in the case of mathematics at high school levels.

To this end, the following research questions were proposed

i. How do high school mathematics teachers perceive about continuous assessment?
ii. How do high school mathematics teachers practice continuous assessment?
iii. Which are the major factors that influence the implementation of continuous assessment in mathematics teaching in high schools?

### 1.3. Objectives of the Study

1.3.1. General objective

This study is to investigating the level of perception and practices of continuous assessment at high school mathematics teachers.

1.3.2. Specific objectives

The specific objectives of the study are:

i. To find out the perception of high school mathematics teachers on continuous assessment:
ii. To examine how continuous assessment is being practiced for mathematics in high schools, and
iii. To identify the factors that influence practicing continuous assessment in mathematics teaching.

### 1.4. Significance of the study

Any educational research is carried out to meet certain values in one way or another. Therefore the findings of this study will be significant to mathematics teachers for increasing their involvement in the assessment process. It will be also important to policy makers and practitioners to be aware of the problems that mathematics teachers are facing in implementing continuous assessment at class room levels in such a way that it will give useful revelations to incorporate suitable internal assessment strategies in mathematics education curriculum and it will also help to formulate suitable training strategies for mathematics teachers to practice better continuous assessment methods. Moreover, the findings will be significant for other researchers who are initiated to undertake further research in the area at national level. Therefore, it will serve as a stepping stone for further studies.

### 1.5. Delimitation of the Study

This study is delimited to explore teacher's perception and practice on continuous assessment in the selected high schools in Wolaita zone. It is well known that to obtain accurate data about a given population, census is a better method of data collection. However, due to budget and time constrain, this study is limited only on 80 mathematics teachers and 262 students. It will focus on how teachers perceive continuous assessment, ways of practices continuous assessment in mathematics class.

### 1.6. Limitation of the Study

Continuous assessment is a relatively new concept in Ethiopia. Thus, locally written literature specifically on perception of teachers on continuous assessment is scarcely available. This limited the researcher not to supplement the study with literature reviewed on at least Ethiopian context. Since the study was confined to schools in Wolaita Zone due to limitations of time and resources, generalization might not be possible in the national context.

### 1.7 Organization of the Thesis

This study has five parts. The first part deals with background of the study and its approach. Then the review of related literature appears in the second part. Part three and four treat the research methodology, and results and discussion respectively. Finally, the fifth part presents summary, conclusions and recommendations of the study.

References and appendices are also attached at the end.

## 2. REVIEW OF LITERATURE

In this part, an effort is made to gather and systematically arrange the review of related literature from different sources. Review related work done by different scholars and authors across the world.

### 2.1 Theory of Learning

In the broadest sense, learning occurs when experience causes a relatively permanent change in an individual's knowledge or behavior. The change may be deliberate or unintentional, for better or for worse, correct or incorrect, and conscious or unconscious (Hill 2002). To quality learning, this change must be brought by experience through the interaction of a person with his or her environment.

This definition specifies that the changes resulting from learning are in the individual's knowledge or behavior. While most psychologists would agree with this statement, some tend to emphasize the change in knowledge, others the change in behaviors.

2.1.1 Behavioral Theory of Learning (Behaviorism)

The behaviorists generally assume that the outcome of learning is change in behavior and emphasizes the efforts of external events on the individual (Allal, 2004).

2.1.2 Cognitive Theory of Learning (Cognitism)

Cognitivists mainly focus on changes in knowledge; believe learning is an internal and mental activity that cannot be observed directly. Cognitive psychologists studying learning are interested in unobservable mental activities such as thinking, remembering and solving problems (Broabfoot, 2002).

2.1.3 Constructivist theory of learning (constructivism)

Constructivism as vast and woolly area in contemporary psychology, epistemology, and education (Von Glasersteled (1997) is broad term used by philosophers, curriculum planners (designers), psychologists, educators, and others. Most people who use the term emphasize the learner's contribution to meaning and learning through both individual and social activity.

2.1.4 Connectivism Theory of Learning (Connectivism)

It is a learning theory of the digital age which was developed by George Simons based on his analysis of the limitations of behaviorism, cognitivism and constructivism and to explain the effect of technology. The theory combines relevant elements of many learning theories, social structures, and technology to create a powerful theoretical construct for learning in the digital ages. This position rests on the idea that the world has changed and become more worked, so learning theories developed prior to these global changes are less relevant.

### 2.2. What is Assessment?

Increasingly, evaluation and measurement specialists are nowadays using the term "assessment" to describe the process of gathering information about students learning. Assessment is broader than testing and measurement because it includes all kind of ways to sample and observe students' skills (psychomotor domain), knowledge (cognitive domain), values and emotions (affective domain).

People often equate assessment with tests, measurement and evaluation. Assessment, however, is quite different in concept. It is worth nothing, therefore, to disclose the views of scholars regarding assessment. Assessment as defined by Frazee and Rudntiski (1995), is an activity that can take many forms, extended over a period of time, and seek to determine the quality of a program or students' work?

According to the definition given by Aggrawal (1994), assessment is beyond a mere collection of information. It is collection with purpose to come up with an integrated development of the personality of the child. Fisher (1996), also contend that assessment is a means by which we see what children have achieved, analyze how they learn and be aware of their attitude towards learning.

### 2.3. The Purpose of Assessment

The main purpose of assessment in basic education is to develop a reliable picture of each individual learner's progress. It should be used to give feedback to learners and parents about their progress and achievement (Muluken, 2006). Related to this, Murphy (1996) identified three major purposes of assessment as: diagnosing prior knowledge and skill, providing corrective feedback and reporting.

Closely related to the above viewpoints of scholars, NOE (2004) cited in Muluken (2006) summarized the main reasons why teachers assess their students as follows: Improving students learning. Assessment gives feedback to the students and the teacher as to how learning is progressing, Determining-content mastery. Teachers assess students to determine if and when they have mastered the subject matter. Improving instructional materials, using the assessment information, instructional materials like textbooks, teacher guide and others can be up dated. Grading students-assessment can provide an evidence of pupils' progress to parents, administers and sometimes employees. Making decisions about schools programs, assessment is important to

monitor school programs and to compare programs or projects, placing students in special groups or ranking students for special purposes, conducting research on teaching methods or curriculum. Aside from simply testing what participants have learned, assessment has a range of functions. It Allows participants to demonstrate their fulfillment of a desired learning outcomes Develops participants' learning Enables tutors to give participants feedback on their performance, including constructive advice on areas in which they need to develop further Motivates participants and indicates priority areas for their learning and development Helps participants to evaluate their own learning and to identify areas in which they need to develop their knowledge and skills Allows teams to evaluate the effectiveness of a program (for example, whether the selection procedures are appropriate and ways in which delivery could be improved) Maintains standards Indicates to external agencies that participants have achieved a certain level of knowledge, understanding and skills in the program subject area. Moreover, it is used to give feedback to learners and parents about learners' progress and achievement (Muluken, 2006).

**2.4. Assessment Methods**

The Portfolio Assessment

A portfolio must be more than just a collection of student work to give a full picture of what the learner has achieved (Puhl, 1997). Reece and Walker (2003) also stated that portfolio based assessment is an important means of individualized, student-centered evaluation.

Portfolio assessment has the potential to improve the complex task of student assessment. More specifically, portfolios are essentially different from other forms of assessment in that they make it possible to document the unfolding process of teaching and learning over time. In relation to this, Apple and Shimo (2004) stated portfolios as a collaborative assessment, partly determined by the classroom teacher and partly by the learner. As Nitko (1996) pointed out, portfolio assessment is a new trend to make authentic assessment pertaining to students' performance or product in classrooms.

Self-assessment

Given the chance, students can assess themselves quite accurately (Muluken, 2006). Supporting this idea, Puhl (1997) suggested that self-appraisal exercises are likely to increase the motivation of learners. Thus, self-assessment has strong impact on active learning to the extent of realization that students have the ultimate responsibility of their own learning. It can help students to pinpoint their strength and weaknesses and find ways of improvement (Haris, 1997).

Peer Assessment

Students are encouraged to assess each other's learning and understanding, taking responsibility for supporting their classmates and making progress together. In light of this, Puhl (1997) put the idea of peer assessment as a response in some form to other learners' work. It can be given by a group or an individual and it can take any of a variety of assessment techniques. Willson (2002) summarized the perceived advantage of peer and self-assessment as follows: Students have more ownership of the assessment process. It can involve students in devising and understanding assessment criteria and in making judgments. It encourages learning through regular feedback. It encourages the reflective student (autonomous learner). It has validity that is; it measures what it is supposed to measure. It can emphasize the process not just the product. It encourages intrinsic rather than extrinsic motivation. In general, peer and self- assessment by students depend on condition that the criteria are made explicit and develop on mutual basis Willson (2002); Brown *et al*. (1997).

Projects

Projects that can be given individually or in groups encourage students to become active and independent learners. Whether projects are used early or late in the course, the time that is needed must be time tabled for students as well as for teachers (Brown *et al*. 1997). They further stated that projects encourage students to work together and reflect their work. Furthermore, Spandel and Stiggins (1990) asserted that projects are important to show the attitude, skills, knowledge and the learning process of students as they engage in activities.

Interviews and Conferences

Teacher-student interviews or conferences are productive means of assessing individual achievement and needs. During these discussions, teachers can discover students' perceptions of their own processes and products of learning (Spandel and Stiggins, 1990). According to Martin (1997), interviewing is one of the best ways to find out how much children have learned and how well they understand what they have learned. Conferences can be used more widely as part of the assessment and may take the form of discussion between teachers and students about schoolwork( Gensee and Upshure, 1996).

As Gensee and Upshure (1996); and Martin (1997) pointed out, interview and conferences are truly authentic way of obtaining information about learners' achievement and their thinking. To attain this, open-ended and partially structured questions can be used.

Quizzes, Tests and Examinations .These are part of the traditional mode of assessment. They are most often used for assessing students' knowledge of content; nevertheless, they may be used for assessing processes skills

and attitudes (Struyven *et al*. 2002). According to Hayes (1997) quizzes, tests and examinations are used as assessment mechanisms in combination with alternative methods of assessment these days. This shows paper and pencil tests and alternative methods of assessment complement each other. This enables the teacher to have detailed, valid and reliable information about the students and the teaching learning process. Most often, quizzes and tests are part of the continuous assessment and examinations are part of the summative assessment. A number of writers on assessment suggest only the procedure of selection of assessment methods. However, they have not tried to explain what tools are to be used in collecting specific information, which a teacher needs in making decision. Interestingly, Genesee and Upshure (1996) put the following as a guide to be used in selecting tools of assessment.

Table 1: Guide line for selecting assessment tools

| S. No | Identified purpose of Assessment | Kind of tool used to collect information pertinent to identified purpose |
|---|---|---|
| 1 | To know student's background | Questionnaire and interviews, journals and conferences |
| 2 | To monitor student' proficiency | Observation, objective referenced tests, conferences, journals, |
| 3 | To develop students' self-assessment skills | Portfolios, conferences, interviews and questionnaires |
| 4 | To know students' perception of classroom learning | Journals, questionnaires, observation and conferences |
| 5 | To encourage students' involvement | Portfolios, conferences and journals |

**2.5. 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 *et al.* (2002); classified the different assessment purposes into one of the following types:

1. Placement Assessment

This is geared towards investigating learner's entry performance. In other words, the goal of placement is to determine for each student the position in the instructional sequence and the mode of instruction that is beneficial to the learner.

2. Formative Assessment

Formative or continuous assessments are based on the on-going observations which teachers make use of regarding a child's progress. Such kind of assessment provides vital feedback on pupil's strengths and weaknesses to teachers, parents and students themselves.

3. 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 achievement.

Summative assessment is used for grading, promoting, and certifying purposes.It is also helpful for providing information based onthe assessment of effectiveness of a program of instruction (ICDR, 2004).

4. Diagnostic Assessment

As struyven *et al*, (2002) viewed, the aim of diagnostic assessment is to determine the causes of persistent learning problems and to formulate plan for remedial actions.

**2.6. Responsibilities of Teachers in the classroom Assessment**

Teachers play a decisive role in the classroom. Most importantly, they are highly expected to assess students and make sound decision (Muluken, 2006). In this respect NOE (2004) listed down what is expected of teachers pertaining to classroom assessment as follows: Teachers should use appropriate type and techniques of assessment. Depending on the objectives to be assessed, oral and practical assessment needed to be considered by teachers to assess content mastery of a subject. Teachers should follow the necessary steps in test construction. To mention, formulate the objectives of testing, Specify contents to be covered. Teachers should report and use results of assessment on the right time. In so doing, teachers, students, parents and other stake holders will be benefited. Teachers should minimize or avoid biases. Classroom assessment should be free of any biases, be it gender biases or bias in terms of location.

**2.7. Assessment and Evaluation**

Assessment and evaluation are functions carried out by teachers to gather information needed to make wise decisions, and it should be clear by now that decisions teachers make are important to the students' lives. These decisions should be based on information that is relevant and as accurate as possible Arends, (1997).

Assessment and evaluation are integral component of the teaching-learning process. They are aimed at guiding and improving instruction. In other words, the assessment of pupil performance and the evaluation of teacher

action are central to an interactive model of teaching (Muluken, 2006).

**2.8. Assessment and Evaluation Strategies**

Assessment data can be gathered and recorded by the teacher and the students in a variety of ways. In light of this Jarolimek and Parker (1997) categorized the method of assessment in to: informal assessment techniques and the formal ones. Accordingly, group discussions, anecdotal records, asking questions are cited as some of the most commonly used informal assessment techniques. In the formal category paper and pencil tests, performance assessment and portfolios are case in points.

**2.9. Assessment and Learning**

Assessment of students' learning traditionally has been conducted with tests. Tests, however, don't exist in a vacuum. Good tests are designed and used to discover if instructional objectives have been met, if learning has occurred, and as a means of communication. They are a valuable and powerful tool, tot only in assessing student progress, but also as means of examining teaching efforts (Elliot *et al*, 2000).

**2.10 Continuous Asseeement**

Continuous assessment is a 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 developmental role (Puhl, 1997).

According to Urevbu (1997) continuous assessment is a continuous updating of teacher's judgment about their own pupils which permit cumulative judgment about their performance to be made.

Airasian (1994) defined continuous assessment as a mechanism which shows the full range of sources and makes teachers use to gather, interpret and synthesize information about learners.

**2.11. What is continuous assessment?**

According to Urevbu (1999) continuous assessment is a continuous updating of teachers' judgment about their own learners performance that allow them to make informed decision. Continuous assessment of learners' progress could be defined as a mechanism whereby the final grading of learners in the cognitive, affective and psychomotor domains of learning systematically takes account of all their performances during a given period of schooling.

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 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.

From these definitions, one could infer that continuous assessment is an assessment approach which involves the use of a variety of assessment instruments, assessing various components of learning, not only the thinking processes but including behaviors, personality traits and manual dexterity. Continuous assessment will also take place over a period of time. Such an approach would be more holistic, representing the learner in his/her entirety. It will begin with the decisions that the teachers perform on the first day of school and end with the decisions that the teachers and administrators make on the learners regarding end-of-year grading and promotion.

**2.12. Advantages 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.

**2.13 Major Behavioral Areas of Continuous Assessment**

Generally, continuous assessment could be applied in three major behavioral areas in schools as follows (ICDR, 1994). Assessing achievements in various subjects using oral questions and different written tests, Assessing closely school related behavioral aspects (i.e., participation in the instruction process, extracurricular activities, fulfillment of assignments, discipline, punctuality and absenteeism) by using anecdotal records, rating scale, cheek list, interview, etc., Assessing general behavioral aspects (i.e. character, interest, beliefs, feelings, attitude, etc.) by using observational techniques.

**2.14. Tools (methods) of Assessment**

There are different methods of assessment that teachers can use during school instruction. For instance, depending on the nature of data required, assessment includes: Tests and examinations to measure cognitive development of pupils, Observation and recording pupils progress in learning activities, Self-assessment records made by pupils themselves, Personality assessment and sociometrist techniques, Longitudinal studies of pupils' development or type of follow up studies.

In general, there are two major types of data collection methods about pupils learning, instructional process and classroom situation as a whole. These are paper and pencil test (techniques) and the use of observational techniques. Each method can be classified into subcategories.

The paper and pencil tests (or techniques) focus on involving pupils to take tests, complete a written homework or assignment, produce a written report, draw a picture of something, finish a worksheet and etc. These methods are best suited to assess outcomes related to knowledge, understanding and thinking skills that belong to the set of cognitive domain.

The observational techniques, on the other hand, involve teachers in looking at or watching pupils' behavior and reactions during and after the process of instruction. Observation is relied on heavily, because it is the most practical way to gather information without interrupting classroom activities. They are most preferably used to assess behavioral outcomes related to psychometric and affective domains.

The major observational techniques or instruments are outlined as follows: Anecdotal records- These are written descriptions of the observations the teacher made on something or about pupils (for each individual or the group). Mostly they are factual records about the individual behavior or reaction. Because it is time consuming to prepare and write, the information is rarely used by teachers. Check list- This is often used to search out very specific and selected aspects of pupils' behavior. A list of performance criteria is associated with particular performance or product and as a result the presence and absence of the specific character is indicated. In other words, Yes /No responses can be applied or used for the behavior to be checked. Rating scale- This is simply a set of characteristics to be judged, accompanied by a kind of scale. Thus, the observer uses the scale to indicate which of several descriptions best characterize the individual being judged. These types of scales can be numerical, graphic and descriptive. In addition, interview is a good instrument to collect assessment data other than testing. Interview- It can include structured or unstructured types of questions that can help the reader to understand interests, opinions and attitudes, interpersonal relationships, typical behavior perception etc. of pupils. The interview can be conducted for the individual or for the group

**2.15. Basic Requirements for Continuous Assessment**

The following preconditions need to be met to make an effective and appropriate assessment (ICDR, 2004): Assessment must be a planned activity- It should be planned how and when the assessment will be made. The teacher must be equipped with an adequate knowledge and capability about the assessment techniques. The assessment should be based on the actual condition, time, place and social factors of the class; pupils' level of knowledge and the nature of instruction. Variety of items and assessment techniques should be selected and applied. The reliability, validity, objectivity and discriminating power of the assessment techniques must be considered and checked. The items should be prepared in a clear, readable and precise language. Assessment should be well administered and its results must be recorded, documented and also reported.

Furthermore, Jarolimek and parker (1997); Ruddell (1997) suggested the following as principle of good assessment. These include: Assessment should focus on learning – its goal is to encourage, assist and enhance learning, not to punish students who perform poorly. Reward students who struggle to take risk for their learning. Treat assessment as an integral part of curriculum and instruction. If assessment is to facilitate students learning, it must be woven in to the fabric of curriculum and instruction. It must be done before, during and after instruction.

It should reduce competition and increase cooperation in the classroom. This is against the commonly held belief of traditional paper pencil test system. Many researchers have opposed this view. They say it has negative

impact on learning. The purpose of assessment is to find out how well and in what way students are able to do what we want them to do. Thus, cooperation among the students is needed. Assessment should build feeling of self-worth and competence. Assess students' performance in authentic tasks assessment should be aimed at looking in to students' ability to apply knowledge and skills successfully in meaningful or authentic tasks which show their ability to use what has been learned. It should be equitable – assessment procedures are fair, just and impartial. There is no bias in terms of race, gender, abilities, culture, socioeconomic status or language background. Provide ample opportunities for students to learn. Before students are to be assessed; they should be given ample opportunity for their learning. It should include consistent and meaningful reporting.

**2.16 The attitude of teachers towards assessment**

Researchers 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 attitudes towards tests used in such a way as to have what they perceive as negative consequences for their students. Similarly, Teshome (2001) has remarked that teachers must understand the assessment process and accept is 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.

**2.17. Teachers' Practice on Assessment and the Problems they face**

Ellington and Earl (1997) outlined that if teachers are not enriched with the basic skills of record keeping as part of continuous assessment of students' work, there is a danger that scores will be misplaced and they might be made difficult to retrieve. Teachers face a challenge while they assess students' work in an educational setting where they do not have enough access to the type of assessment information that will enable them carry out the assessment accurately and fairly (Pierce, 2002). Similarly, Fradd and Lee (2001, in Pierce, 2002) stated that most teachers feel unprepared to assess in the way the institution or the department requires to be done. They further stated that most teachers use the same type of assessment techniques especially those that they were being assessed with while they were in schools.

Successful implementation of continuous assessment demands more work, time and responsibility on the part of teachers. If the teacher is not adequately prepared for operating the system it may lead to a tendency to 'cook up' scores in the name of continuous assessment (Ellington and Earl, 1997). On top of this, Papworth (2005) pointed out that lack of receptiveness by pupils who feel that they are constantly being tested is another problem teacher's face.

**2.18 How to use continuous assessment in the classroom**

Teachers are very much expected to use continuous assessment in the classroom with the intention of improving the teaching-learning process. To be specific, the role of the teacher is giving regular and supportive assessment to the students on their individual progress. In fact, this feedback on their progress can be formal or informal, and formative or summative (Muluken, 2006).

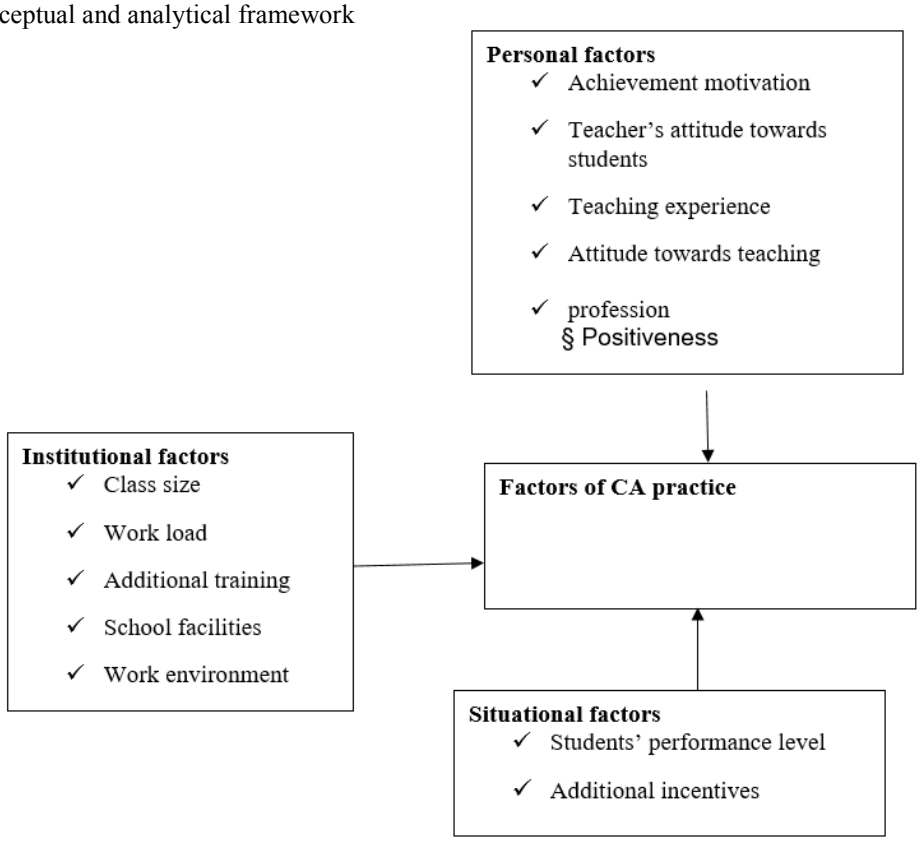
For continuous assessment to be effectively practiced in the classroom, its varied components need to be introduced to the teacher and the students at large. Hence it is worthwhile to look into the different assessment techniques from the perspectives of scholars. As Puhl (1997) short-listed, some of the continuous assessment devices to be used in the classroom include portfolios, peer evaluation, questionnaires, self-evaluation questionnaires, progress card, interview, dramatization, learner profiles and teacher observation.

**2.19. Conceptual Frame Work**

Based on the literature review and discussion with experts frequency of CA practice will be studied by adopting a multiple perspective, which implies investigating the personal factors, situational factors and institutional factors that might influence the practice of CA in terms of frequency. Therefore, this conceptual framework recognizes factors that intervene in the extent of CA practice.

Figure1. Conceptual and analytical framework




## 3. MATERIALS AND METHODS

### 3.1. Research Design

This study investigated mathematics teachers' perception of continuous assessment, how it is being practiced and the main problems encountered during the implementation.

In educational research, there are two cluster methodological approaches employed: qualitative and quantitative (Wellington, 1996, cited in Tefera, 2005).

According to Creswell (1994), qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explores a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports and detailed view of informants and conducts the study in a natural setting.

Quantitative approach, on the other hand, is an inquiry into social or human problem, based on testing a hypothesis composed of variables, measured with numbers and analyzed with statistical procedures in order to determine whether the predictive generalization of the hypothesis holds true (Creswell, 1994).

### 3.2 Sampling Procedure

The study locations were selected purposively and include all wereda in Wolaita Zone. All high school under the selected locations formed the institution considered for the study. Mathematics teachers in the selected high school were the sampling considered for this investigation. They include all government high school and all private high school from Wolaita Zone purposively since they were very small in number. Finally 70 teachers from government high schools were administered with questionnaire but 69 were properly filled and returned the questionnaire. Additionally by available sampling procedure, all mathematics teachers 10 from private high schools were included in this study. So, that the sample size was fixed to 80 and 280 students also involved to cross check the practices of continuous assessment in the class room but only 262 were filled and returned the questionnaire. The students were selected by simple random sampling techniques from the selected high school.

### 3.3. Data and Data source

In this study, both, primary and secondary data were collected. The primary data were generated from the respondents of the study, while secondary data were gathered from documentations, reports and other evidences from schools and other institutions.

### 3.4. Methods of Data Collection

The main instrument of data collection namely questionnaire, interview, and focus group discussion. The questionnaire was developed as structured, which was pre tested using adequate number of non-sample respondents. As a result the source of data was mathematics teachers of the selected high schools. Questionnaire: Both closed and open ended types of questions will be prepared and distributed to the sample of the teachers from the selected areas. *Interview*: Structured and semi structured interview schedules which are related to the topic of the study will be prepared and used for data collection. *Focus Group Discussion*: Focus group discussion which will be recorded through audio and video techniques. Checklist will be used for informal interview and focused group discussions.

### 3.5. Methods of Data Analysis

The quantitative data collected from mathematics teachers through questionnaire will be analyzed using simple descriptive statistic and Likert types of scale i.e. frequency, percentage, mean, and grand mean. Likert scale was used to measure variables related to perception, level of practice and attitude the qualitative data obtained from interviews and focus group discussion were analyzed and interpreted.

## 4. RESULTS AND DISCUSSION

In this part, results obtained from questionnaire, interview, FGD and documents were analyzed. To supplement and enrich the information that was generated using questionnaire, the data from interview and FGD were analyzed and described qualitatively.

### 4.1. Perception of Teachers on CA

The data obtained from the questionnaire using five-point continuum item scale for perception are presented in Table 2.Here an attempt was made to see whether mathematics teachers in the study areas have clear understanding about CA or not.

Items: X1=I feel that employing continuous assessment improves pupils' learning. X2=for me, continuous assessment is a student evaluation system that uses a variety of assessment techniques. X3 =Continuous assessment enables me to look into the performance of the learners which I could not do it in tests. X4 = I believe continuous assessment generally provides a more suitable assessment environment for learners.X5= I feel that I am well trained to put into practice continuous assessment in classroom. X6= Continuous assessment requires to do more work that demands more time. X7= I believe continuous assessment is beyond testing. X8 =I feel that students have sufficient time to prepare and carry out each element of the continuous assessment program. X9=Continuous assessment provides regular feedback on students learning. X10=Continuous assessment helps learners to seek remedial assistance. X11= It is difficult to deduce teachers have the required understanding about continuous assessment. X12= since there is a clear guideline developed by MOE about continuous assessment, teachers find it easy to manage. X13=It is difficult to employ continuous assessment in classes where there are large number of students. As can be seen from the above Table, 45(56.25%) strongly agree and 25(31.25) agree, the respondents believed that employing continuous assessment in the class improves pupils' learning and the score of mean indicate that above average (mean=4.28). In line with this Puhl (1997) asserted that CA contributes a lot to the full development of learners' potential if and only if it is properly communicated. However, only 10% of the respondents were against this view and the remaining 2.5% of the respondents did show neither agreement nor disagreement on this idea.

Almost all of the respondents (91.25%) strongly agreed and agree on the idea that CA is a method of assessment that uses a variety of assessment techniques the mean value indicate that above average (4.4). However, very few respondents (2.5%) did not accept this view and only 6.25% respondents were undecided about this idea.

In addition to this, most of the respondent teachers (68.75%) reported that CA enables them to look into the performance of students, which they could not do it in tests only. However, the minority of respondents (28.75%) disagreed on this issue. In the same way, larger proportion of respondents (75%) supported that CA provides a more suitable assessment environment for learners and the value mean (3.93) scores proved that is above average. Few of these respondents (7.5%) showed disagreement. In line with this, Ellington and Earl (1997) suggested that CA enables learners to be assessed in a better situation closely associated with real practice.

The result for item X5 (Table 2) depicted that half of the respondent teachers (50%) reported that they are well trained to implement CA in mathematics teaching the mean value (3.13) also confirmed these idea (above average). However, taking training and understanding alone does not guarantee good practice and effective use. Proper understanding of continuous assessment is one thing, but putting it into practice effectively is quite another. In fact, understanding for its own sake would be a useless exercise unless it is translated into practice (Tesfaye, 2005). Nonetheless, few of these respondents (38.75%) reported that they are not well trained to practice CA and very few of them (11.25%) were ignorant about this issue. According to Muluken (2006),

teachers should get on-the-job training on CA though special training on the issue for all teachers in the college / university may not expect. Furthermore, Table item X6, portrayed that 77.5% of the respondent teachers agreed that implementing CA requires doing more work that demands more time hence did not feel like using it. However, others 16.25% did not agree on this issue. Supporting this, Taylor (1996) commented that internal assessment is often unpaid extra work for teachers and this represents an attempt to get assessment on the cheap expense of teachers' time showing the demand of commitment on the part of teachers for proper practice of CA. Similarly, Teshome (2001) stated that teachers should accept continuous assessment as their own for its effective implementation. The results obtained for item X7 indicate most of the respondents 71.25% believed that CA is beyond testing while small proportion of these respondents (12.5%) believed that CA is not beyond testing. Still few of the respondents (5%) neither agreed nor disagreed on it. Concerning this, Livingston (2001) stated that CA is far from testing where the over all aspects of learners are taken into consideration.

In connection with this, Batire Bergene, one of the participants from FGD said, "CA is assessment strategy that uses tests, assignments, homework, and observation in order to evaluate students' performance, which will be administered after a topic has been completed. Moreover, it involves keeping records of learners' performance using different strategies as often as possible. Frankly speaking, however, we did not do this This shows that, even though most mathematics teachers perceive CA as an assessment strategy that uses different assessment techniques they do not practice it at all. The probable reasons forwarded by Batire were, "large proportion of students per class which limits us looking and recording every activity of students, shortage of materials which we need to refer and prepare different assessment tools."

A close examination of Table 4 revealed that almost half of the respondents (51.25%) pointed out from their observation that learners do not have sufficient time to carry out each and every element of CA while some of these respondents (27.5%) reported it in the reverse way. In this regard, Sarawar (2001) identified shortage of time as a problem of CA strategy. Therefore, it can be inferred from this that CA demands more time of both the teacher as well as the learners for its effective implementation.

Almost all the respondents (87.5%) agreed that CA provides regular feedback on students' learning. Supporting this, McCormic and Pressley (1997), summarized the role of assessment as providing feedback to students on their progress. However, very few of the respondents (8.75%) did not accept this view.

As shown in (Table 2, for item X10), almost all of the respondents (88.75%) believed that CA helps learners to seek remedial assistance and the mean value is above average (mean=4.28). Related to this, Murphy (1996) identified three major purposes of assessment as diagnosing prior knowledge and skill, providing corrective feedback and reporting. For item X11 of the same Table 4, almost half of the respondents (43.75%) admitted that there is a difficulty to conclude that teachers have the required understanding about CA. Despite this, few of these respondents (31.25%) held the opposite view. Still others (25.0%) did not either agree or disagree on this issue. This indicates that not all mathematics teachers are aware of the CA program, which in turn has impact on its practice. To avoid this, ICDR (2004) contended that teachers should be equipped with an adequate knowledge and capability about assessment strategies as a basic requirement for CA.

The results from Table 2, item X12 indicated that some of the respondents (26.25%) found CA simple to manage in the classroom for there is guideline developed by MOE. On the contrary, 36.25% of the respondent teachers showed disagreement and still some others (37.5%) were ignorant about the presence of any such guideline for CA developed by MOE. This shows that although there is guideline developed by MOE many teachers did not access it.

Eventually, in item X13 of Table 2, almost all the respondents agreed on the idea that it is difficult to employ CA in classes where the numbers of students are large. In general terms, the above responses of teachers regarding their perception indicate the positive attitude of teachers towards continuous assessment. The calculated grand mean of teachers (grand mean=3.80) show that the teachers have clear understanding about continuous assessment (above average).

### 4.2 The Extent of CA Practice in Mathematics Teaching

To see the extent that mathematics teachers employ CA methods, the respondents were asked to rank the frequency of using different CA techniques in their mathematics teaching. The results obtained put in Table 3 is interpreted as follows:

As indicated in Table 5, most of the mathematics teachers 56.25% use test as one of the most frequently used assessment technique. This was followed by class work by 38.78% and homework (30.0%) as means of CA. Furthermore, they pointed out that they sometimes used exam (71.25%), assignment (70.0%), class activity (62.5%) and oral question (50.0%) to assess their students. Therefore, from this one can infer most of the mathematics teachers make use of limited CA techniques rather than finding alternative methods to reach all the students. Supporting this, Brown, *et al* (1996) advised that if essays are used as the only form of assessment, students writing may improve, but other skills may remain undeveloped. In the same way, NOE (2004) explained that evaluation of students' acquisition of knowledge and skills is an integral part of the teaching-

learning processes and CA is an assessment approach that involves the use of a variety of assessment instrument to assess various components of learning.

**4.3 The Purposes of Assessment in Schools**

As to the purpose of assessment results in the schools, Table 4 depicted that nearly half of the teachers (47%) reported that they use assessment results primarily to identify low and high achievers and (38%) of the respondents to decide pupils' promotion to the next grade. With a considerable difference with "to take remedial action", "to improve students' learning" and "to develop participants' learning" were mentioned as secondary purposes of assessment contrary to this NOE (2004) cited in Muluken (2006) summarized the main reasons why teachers assess their students as follows: Improving students learning. Assessment gives feedback to the students and the teacher as to how learning is progressing, Determining-content mastery; Teachers assess students to determine if and when they have mastered the subject matter, improving instructional materials. Using the assessment information, instructional materials like textbooks, teacher guide and others can be up dated. Grading students-assessment can provide an evidence of pupils' progress to parents, administers and sometimes employees. Making decisions about schools programs, assessment is important to monitor school programs and to compare programs or projects.

**4.4 Factors Determining the Frequency of CA Practice**

Its degree of relevancy that factors might influence Frequency of Continuous Assessment Practice in mathematics Teaching. , the respondents were asked to rate the relevancy of factors determining the frequency of CA in their mathematics teaching. The results obtained put in Table 5.

Items U1class size, U2 Achievement motivation, U3 Teacher's attitude towards students, U4 Job commitment , U5 Students' performance level, U6 Teaching experience, U7 Teaching experience, U8 School facilities, U9 Additional incentives. The result item 1 depicted in the above Table 5, shows that almost all 83.75% (n=63) of the respondents agreed that class size relevant to continuous assessment in a single class there are more than 100 students. The calculated mean scores of the teachers (mean=4.18) shows class size influence continuous assessment (above average) hence 7.5% said irrelevant. This contradicts with the policy of MOE where the average number of students in secondary schools should be 40 per class. In addition to this, class size is one of the major impediments of better implementation of CA as it is difficult to reach all students in as much frequency as required. Teachers commonly complain that the class-size is hampering their attempt at practicing CA and recording each and every student's performance (Tesfaye, 2005). The result indicates that when the class size increases the frequency of continuous assessment practice decreases significantly. As can be seen from the above Table 5 item 2, half of the respondents (50%) achievement motivation has relevancy with frequency of CA practice in the classroom. The probable reason might be achievement motivation of teachers, with the practice of CA might remain to be low instead of high, where the possibility of assessing students on a continuous basis would be negligible and hence chances of assessing the students would also be restricted.

The results in Table 5 also indicate that, more than half of the respondents (51%) said teachers' attitude towards students are irrelevant with frequency of continuous assessment practices in the class room and few of them (21.25%) were ignorant about this issue. Those teachers with favorable and unfavorable attitude to their students have no difference in their rate of CA practice.

The result in the above table 5, item 4 shows that most of the respondent teachers (68%) responded that job commitment has strong relevancy with frequency of CA practices. As indicated in Table 7, general performance level of students has relevancy with frequency of CA practice. Majority of respondents (66.25%) rated their students as having poor performance level hence, (12.5%) said irrelevant and (21.25%) of respondents ignored this issue. In order to bring almost all students on average level, classroom teachers might introduce CA gradually, perhaps experimenting which students carry out each element of the assessment technique. A teacher can give the learners a brief questionnaire asking them about their perceptions of progress and achievement and their attitude and values regarding a particular unit. One might help learners generate questions about one another's work for peer-assessment purposes. A teacher could write down his/her own criteria describing a good piece of work, an average piece, and an unsatisfactory piece Puhl (1997).

Theoretically, it is assumed that a rich background of teaching experience increases teachers' ability to instruct and continuously assess their students effectively. However, the findings of this study contradict with this assumption and the data are presented in Table 5 indicate, most of the respondents (43%) said that there is no relevancy between frequency of practicing continuous assessment and teaching experience. Still others (8%) neither agreed nor disagreed on it. Hence, respondents with longer years of teaching experience and those with lesser years of teaching experience have no difference in their frequency of continuous assessment practice.

Additional training is any planned program of learning opportunities afforded to teachers on CA. Additional training on CA given for mathematics teachers as continuous professional development has significant influence on frequency of continuous assessment practice. The results presented in Table 5 also shows that, (72.5%) of

respondents said there are strong relevant between additional training and frequency of CA practice. This contradicts with the view of Ogunniyi (1994) who pointed out that proper implementation of CA in the school requires well-trained teachers. Supporting this, Puhl (1997), argued that teachers could not change the instructional process unless they change the assessment process. Thus, CA is the integral part of active learning methodology.

The probable reason might be there were not sufficient professional development opportunities available to teachers. This might be because the professional development provided by the concerned bodies was minimal and not reinforced by feedback and mentoring. Continuous Assessment as a precondition to implement the active learning method cannot be thought without a sufficient input of the necessary resources. However, most of the respondent teachers (61.25%) responded that, there is relationship between school facilities and frequency of CA practice and (25%) respondents were undecided about this idea. This information forwarded during the FGD shows that, the success of curriculum implementation specially the practice of continuous assessment is often restricted by shortage of teaching materials and equipment in the school.

As indicated in the above Table 5 item 9, half of the respondent teachers (52.25%) reported that additional incentives (money, transfer to the place that particular mathematics teacher wants to work and delegating the teacher for seminars and trainings) have relevancy with frequency of CA practice.

Therefore, as the mathematics teachers who are highly committed to their job provided with some form of incentives, their concern for their students will increase and thereby increasing the rate of assessing their students continuously.

### 4.5 The Practice of CA in Mathematics Teaching

Here teachers in the selected areas were asked about whether they implement CA in their classes or not. The results are presented in terms of private and government high schools to see whether mathematics teachers in these two categories of high schools have difference in practicing CA or not and shown in Table 6.

As can be seen in the Table 6, a substantial number of respondent teachers from government high schools (80%, n=56) do not use CA in their mathematics teaching. This implies, though government high school mathematics teachers have clear understanding about CA, the multidimensional nature of CA other than testing put aside. On the contrary, almost all mathematics teachers (90.0%, n=9) from private high schools practice CA in their teaching. All in all the participants reported that, giving a number of written tests periodically is emphasized.

The respondents suggested that, the practice of CA in mathematics teaching is unmanageable for series of reasons. Because of this, they are forced to use paper and pencil tests. However, Black and William (1998) commented that teachers' heavy use of tests as a measure of learners' performance encourage rote and superficial learning. To add, Papworth (2005) stated that teachers' dependency on tests denies many learners the opportunity to demonstrate their true potential.

### 4.6. The Problems Encountered During the Implementation of CA

As can be revealed from different studies, teachers' implementation of CA can be influenced by different constraints. Based on this fact, this study tried to assess the problems that mathematics teachers of high school faced in implementing CA.

Large number of students in a class

The respondents reported that attempting to practice CA with large number of students is a serious challenge. Emphasizing on this, Alemayehu Brihanu, one of the interviewees said: "It is very difficult to manage more than 100 students in a single class and come up with an effective implementation of CA. Had there been less number of students, it would have been manageable for CA to be fully practiced." In line with this, Hayes (1997) emphasized on the problem of large class size for teachers in terms of assessment of students work and classroom management. Similarly, Ellington and Earl (1997) and Papworth (2005) stated that large class size is the major limiting factor that affects the implementation of CA.

Time constraints

As the findings of this study indicated, most of the participants of FGD reported that shortage of time is a challenge for them to effectively carry out CA. One of teacher in FGD said, "We meet our students only for 40 minutes; 10 minutes for short note. So with this time we are expected to introduce what they are going to learn and clarify the concept and main idea of the lesson and so forth so forth……the only way that we can assess our students is by midterm and final exams which is summative."

The availability of few or no instructional materials

The results from FGD further indicated that lack of necessary materials is a challenge for teachers to implement CA in their school context. To make assessment integral part of instruction, instructional materials are indispensable and the scarcity affects the practice of CA. Concerning this, Teshome (2001) suggested the scarcity of adequate material in schools as an encountered difficulty in implementing continuous assessment. It

is evident from the above explanation that instructional materials are important assets for CA.

**4.7 Possible Solutions Suggested by the Respondents**

Respondents were also asked to give their possible suggestions for the aforementioned problems in implementing continuous assessment in mathematics teaching decreasing the number of students per class: - as per the policy of MOE in our country schools should consider their enrollment number with respect to their capacity, so that the number of students will be decreases into manageable one. Sufficient instructional material needed to be made available for all teachers: - availability of necessary materials such as text books, reference materials, and teaching aids help teachers to carry out each process of continuous assessment effectively. Pedagogical center should be well organized:-the necessary teaching materials like mathematics kits and 3D object should be full filled as well as subject wise extra teachers should be recruited, Training and incentives to have be given to teachers.

**4.8 Teachers' Belief about CA**

Responses to the question related to teachers' belief on CA are found on Table 7; Items: X1 =Assessment should motivate students to learn, X2= Continuous assessment should promote deep learning, X3 =Continuous assessment should be fair, X4 =Continuous assessment should be formative-even when it is intended to be summative, X5= Continuous assessment should be equitable, X6= Assessment should allow students to check out how well they are developing as learners, X7= Continuous assessment should be demanding, X8= Assessment should be timely. From this, one can interpret that teachers have had some basic principles of continuous assessment but there are other factors related to these points affecting the implementation of CA; such as skills, methodology, class size and the like. When opinions of teachers' response compared to those response of students, it was a kind of controversy because even if the teachers knew the basic principles of continuous assessment, they failed to implement it that was why the student said 45% of CA was unsatisfactory.

**4.9 Assessment Practiced**

Responses for students extent to which the teachers have been practiced CA in the class room is presented in the Table 8 and interpreted as follows: This could be through applying different assessment techniques and regular follow-up of the students' activities. In recognition of this fact students were asked about assessment techniques which were used by the teachers and their follow up was presented to respondents with five alternatives.

Items X1 How often your mathematics teachers give you class work (individual) and/or group works?, X2 How often your mathematics teachers give you homework?, X3 How often your mathematics teachers made observation on students work?, X4 How often your mathematic teachers s ask students oral question?, X5 How often your mathematics teachers assess students' demonstration (project work)?, X6 How often your mathematic teachers give classroom test /quizzes? As can be observed from item 1 of table 8, the majority of 117(44.7%) of student respondents reported that the teachers give class work/group work every week. Results in item 2 of the above table indicate that 43(16.4%) students responded that the teachers assign homework daily, 70(26.7%) every two or three days, 124(47.4%) every week. According to Cooper (1989) as cited in Adane and Dawit (2000) students from grades 10 to 12 would be given three to five assignments a week.

Regarding item 3 of table 8, the majority of 190(72.52 %) student respondents reported that observation was not used properly. Moreover, the calculated mean scores of the students (mean=1.92) indicates that the respondents rated the item unsatisfactory. As depicted from the above, observation was not taken as a method of assessment techniques to check student performance. But observation as a technique of assessment helps the teacher to know individual student's performance. It takes in to account those aspects of students' performance or behavior that cannot be easily assessed through information from other sources of evaluation data. Therefore, observation should be taken into account as a technique of assessment (Newfound Land, 2000).

In case of demonstration (project work) the majority of the student162 (61.83%) respondents said that they had never been provided with such type of assessment. Item 6 of the above table, revealed that the majority of the 159(60.7%) of students responded that the teachers gave two test for a course in a semester. The mean score of students (mean=1.65) show that the students are not getting sufficient test unsatisfactory. This finding was consistent with the results obtained from the document analysis. Two tests might not be considered as implementing continuous assessment.

Generally, table 8 showed that the teachers used a few type of tools in which assignments/class work, homework/ group works are dominating the rest. The interview and the document analysis result as well showed that teachers mostly used assignments, oral questions, class work /homework. The Grand Mean indicate that (2.82) unsatisfactory. But, project, observation of students work and tests are rarely used tools of assessment. It should be understood that continuous assessment is an integral part of the learning process. Singer (2003) stated that continuous assessment can take the form of daily work (e.g. Quizzes, presentation, and participation in class, projects and practical work).

**4.10 The Extent of Usefulness of Continuous Assessment**

Students' Responses for the extent of usefulness of continuous assessment evaluation system is found on Table 9.This questionnaire was answered individually by a total of 262 students included in the study. Even though an exclusive analysis of all questionnaire items was carried out, here the researcher presents only those related directly to the topic of continuous assessment as an instrument for optimizing pedagogical assistance. In this respect, students' opinion of their degree of satisfaction and dissatisfaction with learning process in which they participate is normally considered as one of the fundamental dimensions to consider for improving the quality of education in the region in general and JZSSs students' quality in particular.

As table 9 shows, the usefulness of continuous assessment evaluation system generally rated very positively. The responses include: to work more continuously and systematically; to read systematically and in-depth; to heighten your interest and motivation; to better regulate your leaning process; to improve communication with the teacher; to improve the meaningfulness of your learning (assessment scale very little, a little, some, quite a bit, very much). Out of all these," systematically and in-depth" (very little, 14%, a little 20%, some 18%, quite a bit 25%, very much 23%), and to work more continuously and systematically" (very little 10%, a little 12%, some 32% ,quite a bit 20%, very much 25%) are those most often mentioned. "To increase participation in class" (very little 15% ,a little 15%, some 22%, quite a bit25%, very much 23%) and to heighten your interest and motivation" (very little 10%, a little 19%, some 20%, quite a bit 26%, very much 25%) are least supported when assessing the usefulness of the continuous assessment evaluation system.

Focus group Discussion with the School Director and some Department Head

The objective of this focus group discussion (FGD) is to obtain views that may confirm that of teachers' or be different from as it relates to the practice and use of continuous assessment in the JSSS. The discussion focused only on three basic points: current status, challenges or problems/if any/ for not able to use continuous assessment and measures should be taken in the future. The first point or questions was to know the views of the discussants on the status of the use of continuous assessment.

1. Do you think that continuous assessment is properly used in the school?

Responses vary, however, all of them end up in title certainly or that the practice under consideration can be categorized as 'low' or 'weak'. Discussants invariably indicated that what are now characterized as 'continuous assessment' by most teachers of the various departments are assignments, presentations on specific issues, mid and final examinations. These teachers, thus, claim that they are, in fact, practicing continuous assessment. From the discussions, it can be said that this position is institutional and common perception among most of the JSSS academic community. It is also surprising to know from the FGD that there is nobody to check the content, scope and the quality of the mid and final examinations under scrutiny as to whether they can measure the objectives set to impart the subject. In other words, there is no means of knowing how much these tests/exams are based on the current set competencies and whether or not they can effectively measure the same.

Some of the teachers and the department heads who participated in the FGD told hat there have not been practices of these type or rules to go through the different tests or exams and provide feedback or comments to the teachers. These discussants did not think that checking tests or exams in a bid to measure set objectives or competencies falls within their academic and management duty. Therefore, tests or exams directly go to the secretary by—passing the departments. Extreme cases have also been recounted that sometimes and owing to shortage of stationeries and due to lack of photocopiers and related facilities, tests or exams are written and duplicated and brought in to the examination rooms. This vividly shows that teachers along are the only persons to know about the instrument continuous assessment used to measure student' learning outcomes.

Such deficiencies in the supply of key facilities also play their roles in undermining the role of the academic departments that could have served as gate-keepers of the quality of assessment practices. In general, the fact that there is no cohesive academic cooperation between teachers has led to the situation that each subject teacher does not receive advice or comments from any one on the quality of tests or exams. This has made exams not only to remain 'sacred' but also developed distorted views such as 'who comments on whose exam?' to have been prevailed in their solid state.

2. What factors do hamper the use of continuous assessment?

As to the factors that do hamper the use of continuous assessment as an internal part of the entire teaching learning process, responses are multifaceted. Nevertheless, most of the responses confirm that there is no strong institutional urge to use continuous assessment. To comprehensively determine students learning outcomes, it seems that teachers are the only responsible bodies and if intervened with (even positively), it was felt that they would be "offended".

The question to be raised is what if the teachers lack the knowledge and the skill on continuous assessment. What if the some or majority of them have not come from the education stream where the issue of continuous assessment is the main subject or known and who should fill the gap?

On the other hand, some of the plausible points as to why continuous assessment has not become part and parcel of the teaching-learning process in JSSS have been cited by the discussants as follows: Departments have

not taken it as their academic task to either build the capacity of teachers on the subject or insist on the application of continuous assessment. What they actually want to know is that "exams are made ready within the time set". One department head discussant explained that even upon simply looking at the format and inappropriate dictions or phrases, teachers get 'disappointed' when suggestion is given to change them. They do not want to be 'criticized" as this may be perceived "inferiority" in their area of competence. Intervention of such types may also wrongly be interpreted as violation of teachers' "academic freedom".

Class-size that sometimes goes up to more than 110 students in a class also poses some level of inhibition or avoidance to continuous assessment. Large class size is major factor determine the frequency of continuous assessment practice. This opinion is quite similar to what the teachers repeatedly pointed out in their responses. Teachers are not motivated and proactive to undertake such important academic tasks although much is said about the causes behind the loss of interest or motivation. Most of the teachers do not have good knowledge based and skill about the objective and role of continuous assessment From the overall challenges facing the School, discussants of the focus group raised several points to be reformed or reestablished in the school. In consequence, they suggest for solutions. One of such suggestions is the establishment of an examination committee. Its overall objective is to guide and control the quality, validity and scope of tests or exams set by teachers.

## 5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This part of the thesis presents the summary of the major findings, the conclusions drawn and recommendations forwarded by the researcher

### 5.1. Summary

The main purpose of this study is to assess the teachers' perception and practices towards continuous assessment of mathematics classes in Wolaita Zone. In order to achieve the purpose of this study, basic research questions raised formulated regarding the current status of continuous assessment techniques, whether the practiced methods address the curriculum objectives and questions that can help to identify the challenges in practicing continuous assessment in the study area were stated.

This study was conducted in Wolaita zone. The study carried out in all Wolaita Zone Secondary School which were selected by purposive sampling method. An attempt was made to assess the perception of high school mathematics teachers on CA, how it is being practiced and major problems that mathematics teachers possibly encountered during the implementation of CA. To attain this, the study was made to focus on answering the basic research questions mentioned in the introduction part.

Survey type of research was used in this study. Accordingly, different methods of data analysis were employed. To find out answers for the basic research questions, questionnaires were developed as the main instrument of data collection. In order to enrich the information obtained from the questionnaire, FGD and informal interview were conducted. Thus, primary data was collected from selected teachers and students. Secondary data was collected from document, reports and different literature, which are related to the collected quantitative and qualitative data. Group discussion was also conducted with selected teachers to crosscheck and support the data. The collected data was analyzed using simple descriptive like frequency, percentages, mean and grand mean.

The total number of mathematics teachers involved in this study was 80, out of which 10 were from private high schools that were selected purposively since their number was small. 262 students also involved to cross check the practices of continuous assessment in the class room. The students were selected by simple random sampling techniques.

The calculated grand mean (3.80) scores result revealed that, the considerable number of teachers have clear perception and understanding about continuous assessment (above average). The mean scores result indicate that, out of those major factors class size, job commitment, additional incentives had strong effect on the frequency of CA practice.

Based on the percentage analysis 56.25 % (n=45) of mathematics teachers use test as the most frequently used assessment method. A considerable proportion of respondents 70% (n=56) and 71.25% (n=57) sometimes used assignments and exam as continuous assessment technique respectively. This result reveals that most of the mathematics teachers make use of very limited assessment methods.

The major findings of this study were: As far as the use of variety of continuous assessment is concerned, most teachers use the same method throughout the year. The extent of practicing continuous assessment was very low in mathematics classes. A considerable number of mathematics teachers have clear understanding about continuous assessment Continuous assessment in the selected high schools was not fully practiced. The common assessment trend was giving written tests and examinations Large class size, lack of sufficient instructional materials, lack of adequate training and incentives were some of the factors that hinder the proper implementation of continuous assessment. Reducing the class size, providing sufficient materials, giving on-the-

job training and incentives were the solutions suggested by mathematics teachers.

### 5.2. Conclusions

The practice of continuous assessment requires human and material resources. Without fulfilling these essential elements, practicing them is difficult. Therefore, based on the findings the following conclusions are drawn. The study revealed that large proportion of mathematics teachers in the study areas have clear perception and understanding about continuous assessment

From the findings, it can be concluded that the majority of teachers use similar assessment techniques. The trend of using tests and examinations as a mere mode of assessment was emphasized. This implies mathematics teachers have not used the different methods of CA to assess the overall performance

The study found out that the use of assessment as a tool for learning is limited. Assessment needs to be part of a day-to-day teaching and learning. It should not be seen as an add-on activity. The finding also indicate that most teachers use assessment result for grading rather than identifying learning problems and assist students by adjusting their instruction. Assessment results for the purpose of feedback (for both teachers and students) are the neglected part of assessment in the sample secondary school against the argument by many scholars that assessment should provide information to teachers for their own self-evaluation and evaluation of their students.

The instructional resources that can facilitate the teaching-learning process are not sufficient in the sample secondary school. According to the study, school facilities and classroom learning environment are not conducive to implement the continuous assessment techniques. Many factors affect the implementation of continuous assessment. These include: large class size, inadequacy of materials, lack of on job training and incentives. Generally, the major contribution of implementing continuous assessment in improving the quality of education depends on the role of the teacher, who has enough experience, training, knowledge and skills in handling instructional methodologies in general and continuous assessment techniques in particular. However, the findings of this study confirmed that the practice of the continuous assessment techniques is poor in the sample secondary school. Thus, it can be concluded that, Wolaita zone secondary school unsuccessful to equip the trainees with the necessary skills and knowledge to cope up with the interest of the students and develop problem solving capacity of the students. Moreover, it seems logical to conclude that teachers also failed to employ continuous assessment techniques as desired practically. Rather, they advocate the importance of the techniques theoretically.

### 5.3. Recommendations

Though the teachers showed positive perception towards the continuous assessment, their involvement in applying them is low. Therefore, it is necessary to devise mechanisms to address the issue of implementation. It is advisable that the mathematics department organizes seminars, workshops, panel discussions, experience sharing etc. in collaboration with the school on topics which could help them to implement and increase their dedication in practicing the assessment techniques.

The government and other concerned bodies should make maximum effort to reduce the number of students per class to manageable number, which is optimal.

Conducive school facilities are very important for implementing continuous assessment. The physical environments in the schools and in the classroom facilities are affecting the practice of continuous assessment. Again the study revealed that the schools have not conducive facilities for the application of continuous assessment in mathematics teaching. Thus, it seems important that the school administrators and other stakeholders play their part in improving facilities.

Rewards and incentive mechanism should be given for those who practice CA effectively so as to motivate other mathematics teachers.

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Table 2: Summary of perception of mathematics teachers on CA (N=80)
(N.B. 5 = Strongly Agree, 4 = Agree, 3 = Undecided, 2= Disagree, 1= Strongly Disagree)

| S/no | Items | Strongly Agree | | Agree | | Undecided | | Disagree | | Strongly Disagree | | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | f | % | f | % | |
| 1 | X1 | 43 | 56.25 | 25 | 31.25 | 2 | 2.5 | 3 | 3.75 | 5 | 6.25 | 4.28 |
| 2 | X2 | 43 | 53.75 | 30 | 37.5 | 5 | 6.25 | 1 | 1.25 | 1 | 1.25 | 4.4 |
| 3 | X3 | 26 | 32.5 | 29 | 36.25 | 2 | 2.5 | 11 | 13.75 | 12 | 15.0 | 3.58 |
| 4 | X4 | 24 | 30.0 | 36 | 45.0 | 14 | 17.5 | 2 | 2.5 | 4 | 5.0 | 3.93 |
| 5 | X5 | 21 | 26.25 | 19 | 23.75 | 9 | 11.5 | 11 | 13.75 | 20 | 25.5 | 3.13 |
| 6 | X6 | 37 | 46.25 | 25 | 31.25 | 5 | 6.25 | 6 | 7.5 | 7 | 8.75 | 3.99 |
| 7 | X7 | 22 | 27.5 | 35 | 43.75 | 13 | 16.25 | 6 | 7.5 | 4 | 5.0 | 3.81 |
| 8 | X8 | 13 | 16.25 | 8 | 10.0 | 18 | 22.5 | 22 | 27.5 | 19 | 23.75 | 2.68 |
| 9 | X9 | 32 | 40.0 | 38 | 47.5 | 3 | 3.75 | 2 | 2.5 | 5 | 6.25 | 4.13 |
| 10 | X10 | 40 | 50.0 | 31 | 38.75 | 4 | 5.0 | 1 | 1.25 | 4 | 5.0 | 4.28 |
| 11 | X11 | 15 | 18.75 | 20 | 25.0 | 20 | 25.0 | 12 | 15.0 | 13 | 16.25 | 3.15 |
| 12 | X12 | 9 | 11.25 | 12 | 15.0 | 30 | 37.5 | 19 | 23.75 | 10 | 12.5 | 2.89 |
| 13 | X13 | 35 | 43.75 | 39 | 48.75 | 3 | 3.75 | | | 3 | 3.73 | 5.16 |
| GrandMean =3.80 | | | | | | | | | | | | |

 

Table 3: Responses of mathematics teachers on the extent of using CA techniques

| S. No | CA techniques | Usually | | Sometimes | | Never | |
|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % |
| 1 | Exam | 21 | 26.25 | 57 | 71.25 | 2 | 2.5 |
| 2 | Test | 45 | 56.25 | 32 | 40.0 | 3 | 3.75 |
| 3 | Assignment | 15 | 18.75 | 56 | 70.0 | 9 | 11.25 |
| 4 | Class activity | 19 | 23.75 | 50 | 62.5 | 11 | 13.75 |
| 5 | Homework | 24 | 30.0 | 38 | 47.5 | 18 | 22.5 |
| 6 | Oral question | 27 | 33.75 | 40 | 50.0 | 13 | 15.25 |
| 7 | Class work | 31 | 38.75 | 28 | 35.0 | 21 | 26.25 |

Table 4: Responses of mathematics teachers about the purposes of continuous assessment serve in school.

| S/No | purposes | 1st choice | | 2nd choice | | 3rd choice | | 4th choice | | 5th choice | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | f | % | f | % |
| 1 | To decide students promotion to the next grade | 31 | 38.75 | 16 | 20.0 | 13 | 16.25 | 11 | 13.75 | 9 | 11.25 |
| 2 | To identify low and high achievers | 38 | 47.5 | 32 | 40.0 | 4 | 5.0 | 3 | 3..75 | 3 | 3.75 |
| 3 | To take remedial action | 7 | 8.75 | 15 | 18.75 | 40 | 50.0 | 8 | 10.0 | 10 | 12.5 |
| 4 | To re-teach what students missed | 9 | 11.75 | 12 | 15.0 | 25 | 31.25 | 29 | 36.25 | 5 | 6.25 |
| 5 | . To motivate students | 6 | 7.5 | 10 | 12.5 | 14 | 17.5 | 11 | 13.75 | 39 | 48.75 |
| 6 | To improving students learning | 17 | 21.25 | 21 | 26.25 | 12 | 15.0 | 16 | 20.0 | 14 | 17.5 |
| 7 | To improving instructional materials | 22 | 27.5 | 19 | 23.75 | 14 | 17.5 | 15 | 18.75 | 10 | 12.5 |
| 8 | To develops participants' learning | 24 | 30.0 | 28 | 35.0 | 13 | 16.25 | 4 | 5.0 | 11 | 13.75 |

Table 5: Responses of mathematics teachers on Factors Affecting the Implementation of Continuous Assessment

| S/No | Items | Responses: Strongly Relevant | | Relevant | | Undecided | | Irrelevant | | Strongly Irrelevant | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | f | % | f | % | mean |
| 1 | U1 | 37 | 46.25 | 30 | 37.5 | 7 | 8.75 | 2 | 2.5 | 4 | 5.0 | 4.18 |
| 2 | U2 | 18 | 22.5 | 22 | 27.5 | 27 | 33.75 | 5 | 6.25 | 8 | 10.0 | 3.46 |
| 3 | U3 | 4 | 5.0 | 8 | 10.0 | 17 | 21.25 | 21 | 26.25 | 30 | 37.5 | 2.19 |
| 4 | U4 | 24 | 30.0 | 31 | 38.75 | 15 | 18.75 | 3 | 3.75 | 7 | 8.75 | 3.78 |
| 5 | U5 | 21 | 26.25 | 32 | 40.0 | 17 | 21.25 | 3 | 3.75 | 7 | 8.75 | 3.71 |
| 6 | U6 | 16 | 20.0 | 9 | 11.25 | 20 | 25.0 | 11 | 13.75 | 24 | 30.0 | 2.78 |
| 7 | U7 | 27 | 33.75 | 31 | 38.75 | 13 | 16.25 | 2 | 2.5 | 7 | 8.75 | 3.86 |
| 8 | U8 | 19 | 23.75 | 30 | 37.5 | 20 | 25.0 | 5 | 6.25 | 6 | 7.5 | 3.64 |
| 9 | U9 | 22 | 27.5 | 19 | 23.75 | 23 | 28.75 | 6 | 7.5 | 10 | 12.5 | 3.46 |
| | | | | | | | | | | | | Grand mean = 3.45 |

 

Table 6: Practice of CA in mathematics classes

| | Question | Teachers' response | | | |
|---|---|---|---|---|---|
| | Do you employ CA in your class? | Government high schools | | Private high schools | |
| | | f | % | f | % |
| a | Yes | 14 | 20.0 | 9 | 90.0 |
| b | No | 56 | 80.0 | 1 | 10.0 |
| Total | | 70 | 100.0 | 10 | 100.0 |

Table 7: Responses to the question related to teachers' belief on CA

| S/No | Items | Strongly agree | | Agree | | Undecided | | Disagree | | Strongly Disagree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | f | % | f | % |
| 1 | X1 | 21 | 26.25 | 24 | 30.0 | 21 | 26.25 | 9 | 11.25 | 5 | 6.25 |
| 2 | X2 | 23 | 28.75 | 28 | 35.0 | 20 | 25.0 | 13 | 16.25 | 6 | 7.5 |
| 3 | X3 | 29 | 36.25 | 32 | 40.0 | 8 | 10.0 | 8 | 10.0 | 3 | 3.75 |
| 4 | X4 | 26 | 32.5 | 25 | 31.2 | 14 | 17.5 | 10 | 12.5 | 5 | 6.25 |
| 5 | X5 | 31 | 38.75 | 24 | 30.0 | 18 | 22.5 | 7 | 8.75 | | |
| 6 | X6 | 29 | 36.25 | 32 | 40.0 | 12 | 15. | 6 | 7.5 | 1 | 1.25 |
| 7 | X7 | 25 | 31.25 | 37 | 46.25 | 8 | 10.0 | 5 | 6.25 | 5 | 6.25 |
| 8 | X8 | 27 | 33.75 | 26 | 32.5 | 15 | 18.75 | 9 | 11.25 | 3 | 3.75 |

Table 8: Response by students the extent to which the teachers have been practiced Continuous Assessment in the classroom.
(N.B. 5 = Daily, 4 = every two or three, 3 = every week, 2= Twice in a semester, 1= Once in a semester)

| S/No | Items | Daily | | Every 2 or 3 days | | Every Week | | Twice in a semester | | Once in a semester | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | f | % | f | % | mean |
| 1 | X1 | 47 | 17.9 | 81 | 30.9 | 117 | 44.7 | 12 | 4.85 | 5 | 1.9 | 3.58 |
| 2 | X2 | 43 | 16.4 | 70 | 26.7 | 124 | 47.4 | 15 | 5.7 | 10 | 3.8 | 3.46 |
| 3 | X3 | 2 | 0.8 | 20 | 7.6 | 50 | 19.1 | 75 | 28.6 | 115 | 43.9 | 1.93 |
| 4 | X4 | 246 | 93.9 | 16 | 6.1 | 0 | 0 | 0 | 0 | 0 | 0 | 4.93 |
| 5 | X5 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 38.2 | 16 | 61.83 | 1.38 |
| | | | | | | | | | | | | Grand Mean = 2.82 |

Table 9 Students' Responses for the extent of usefulness of continuous assessment evaluation system.
(N.B 1= Very little, 2= a little, 3= some, 4= quite a bit, 5= very much).

| S/No | | Very much | Quite a bit | Some what | A little | Very little |
|---|---|---|---|---|---|---|
| 1 | Working continuously and systematically | 23% | 25% | 18% | 20% | 14% |
| 2 | Reading systematically and in depth | 26% | 20% | 32% | 12% | 10% |
| 3 | Increasing your interest and motivation | 23% | 25% | 22% | 15% | 15% |
| 4 | Increasing your class participation | 25% | 26% | 20% | 19% | 10% |
| 5 | Better regulation in learning process | 24% | 27% | 25% | 14% | 10% |
| 6 | Better communication with the | 23% | 28% | 23% | 14% | 12% |
| 7 | Making learning more meaningful | 24% | 23% | 22% | 18% | 14% |

## 7. APPENDICS

*Wolaita Sodo University*
*College of Natural Sciences and Computational*
*Department of Mathematics*

**Questionnaire for Mathematics Teachers**

Teacher's Perception and Practices towards Continuous Assessment of mathematics Classes: The case of Secondary Schools in Wolaita Zone in SNNPR Region, Ethiopia.

The purpose of this questionnaire is to obtain information about the perception of mathematics teachers' about Continuous Assessment and how it is being practiced. Your genuine response contributes a lot to the success of

the research to be undertaken. Hence, you are requested to kindly fill the questionnaire.
*Thank you so much!*
Note: No need of writing your name. Please reply to questions as per the instruction given for each part, either by putting (√) or short responses as required.
PERSONAL DATA
1. Sex: 1. Male □ 2. Female □
2. Age: _____
3. Years of teaching experience: _____
4. Qualification:
5. What is the number of students in each class you teach?
<50 □ 50-100 □ >100□
6. How many periods do you have per week?
<15 p\w 15-20 p\w >20 p\w
7. Here is five-point scale to measure your perception about Continuous Assessment.
Table 1: General items for perception of teachers' on continuous assessment

| S/No | Items | Strongly agree | agree | undecided | disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 1 | I feel that employing continuous assessment improves pupils' learning | | | | | |
| 2 | For me, continuous assessment is a student evaluation system that uses a variety of assessment techniques | | | | | |
| 3 | Continuous assessment enables me to look into the performance of the learners which I couldn't do it in tests | | | | | |
| 4 | I believe continuous assessment generally provides a more suitable assessment environment for learners | | | | | |
| 5 | I feel that I am well trained to put into practice continuous assessment in classroom | | | | | |
| 6 | Continuous assessment requires to do more work that demands more time. | | | | | |
| 7 | I believe continuous assessment is beyond testing | | | | | |
| 8 | I feel that students have sufficient time to prepare and carry out each element of the continuous assessment program. | | | | | |
| 9 | Continuous assessment provides regular feedback on students learning | | | | | |
| 10 | Continuous assessment helps learners to seek remedial assistance | | | | | |
| 11 | It is difficult to deduce teachers have the required understanding about continuous assessment | | | | | |
| 12 | Since there is a clear guide line developed by MOE about continuous assessment, teachers find it easy to manage | | | | | |
| 13 | It is difficult to employ continuous assessment in classes where there are large no of students | | | | | |

Please put a (√) mark to show your understanding about continuous assessment.
8. Do you employ continuous assessment in your class?
Yes □ No □
9. Frequency of practicing continuous assessment. Put a (√) mark to show the frequency of using continuous assessment in your class.

 

Table 2: Frequency of practicing continuous assessment

| No | Continuous Assessment Methods | Usually | Sometimes | Never |
|---|---|---|---|---|
| 1 | Test | | | |
| 2 | Exams | | | |
| 3 | Class work | | | |
| 4 | Assignments | | | |
| 5 | Home Work | | | |
| 6 | Class Activity | | | |
| 7 | Oral Question | | | |

Table 3: The purposes of assessment results serve in schools

| S/No | Purposes | 1st choice | 2nd choice | 3rd choice | 4th choice | 5th choice |
|---|---|---|---|---|---|---|
| 1 | To decide students promotion to the next grade | | | | | |
| 2 | To identify low and high achievers | | | | | |
| 3 | To give remedial instruction | | | | | |
| 4 | To re-teach what students missed | | | | | |
| 5 | To motivate students | | | | | |
| 6 | To improving students learning | | | | | |
| 7 | To improving instructional materials | | | | | |
| 8 | To develops participants' learning | | | | | |

11. Factors Determining the Frequency of CA Practice

Its degree of relevancy that factors might influence Frequency of Continuous Assessment Practice in Mathematics Teaching.

Please put (√) mark in the appropriate column against each variable listed.

Table 4: Relevancy Rating your class.

| S/No | Factors | Highly Relevant | Relevant | Undecided | Irrelevant | Highly Irrelevant |
|---|---|---|---|---|---|---|
| 1 | Class size | | | | | |
| 2 | Achievement motivation | | | | | |
| 3 | Teachers' attitudes towards students | | | | | |
| 4 | Job commitment | | | | | |
| 5 | Students' Performance level | | | | | |
| 6 | Teaching experience | | | | | |
| 7 | Additional training | | | | | |
| 8 | School facilities | | | | | |
| 9 | Additional incentives | | | | | |

 

12. Teachers' belief on continuous assessment

Table 5 below shows that the response to the question: *rate the given statements representing opinions and your agreement or disagreement will determine on the basis of your particular beliefs*. Indicate what you belief rather than what you think you should belief.

| S/No | Statements of opinions | Strongly agree | agree | undecided | disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 1 | Assessment should motivate students to learn | | | | | |
| 2 | Continuous assessment should promote deep learning | | | | | |
| 3 | Continuous assessment should be fair | | | | | |
| 4 | Continuous assessment should be formative-even when it is intended to be summative | | | | | |
| 5 | Continuous assessment should be equitable | | | | | |
| 6 | Assessment should allow students to check out how well they are developing as learners | | | | | |
| 7 | Continuous assessment should be demanding | | | | | |
| 8 | Assessment should be timely | | | | | |

1. Why is assessment so important in education? _____
_____
_____
_____

2. What is the relationship between continuous assessment and examinations? _____
_____
_____
_____

***Wolaita Sodo University***
***College of Natural Sciences and Computational***
***Department of Mathematics***

**Questionnaire for Students**

Introduction

Dear respondent! The objective of this Questionnaire is to collect information about the practices of continuous assessment in mathematics classes. Please be objective and complete in your answers.

*Thank you in advance for your cooperation!*

Note: No need of writing your name. Please reply to questions as per the instruction given for each part, either by putting 'X' or short responses as required.

I. General Information

Direction: Please, select the choice that reflects your opinion and replay by putting 'X' or write your response when necessary.

1. Name of the school _____
2. Sex A. Female □ B. Male □
3. Age A. Less than 16 years' □ B.17-19 year's □ C. 20 years and above □
4. Major area _____ Year _____

Items related to the type of assessment methods practiced.

 

Table 1 Please, mark 'X' in the space provided in accordance to the given alternative the assessment methods used by your teachers.

| S/No | Items | Daily | Every 2 or 3 days | Every Week | Twice in Semester | Once in a semester |
|---|---|---|---|---|---|---|
| 1 | How often your mathematics teachers give you class work (individual) and/or group works? | | | | | |
| 2 | How often your mathematics teachers give you home work? | | | | | |
| 3 | How often your mathematics teachers made observation on students work? | | | | | |
| 4 | How often your mathematics teachers ask students oral question? | | | | | |
| 5 | How often your mathematics teachers assess students' demonstration (project work)? | | | | | |
| 6 | How often your mathematics teachers give classroom test /quizzes? | | | | | |

2. The usefulness of continuous assessment

Table 2 below shows, the usefulness of continuous assessment evaluation system.

*Rate the degree to which you consider that the continuous assessment evaluation systems will help you:*

| *S/No* | | *Very much* | *Quite a bit* | *Some what* | *A little* | *Very Little* |
|---|---|---|---|---|---|---|
| *1* | Working continuously and systematically | | | | | |
| *2* | Reading systematically and in depth | | | | | |
| *3* | Increasing your interest and motivation | | | | | |
| *4* | Increasing your class participation | | | | | |
| *5* | Better regulation in learning process | | | | | |
| *6* | Better communication with the teachers | | | | | |
| *7* | Making learning more meaningful | | | | | |

Check lists for Interview and FGD

Interview for Mathematics Teachers

1. How do you see continuous assessment in measuring your students' performance?
   How do you perceive it?
2. Do you think using continuous assessment in the classroom challenges you in covering the portion of the lesson on time? If yes, how?
3. What do you think are the problems encountered in using continuous assessment in your classroom?
4. Would you suggest possible solutions that help mathematics teachers to reduce the major problems behind continuous assessment?
5. Which form of assessment is used most in your school, in your classroom?

Focused Group Discussion for Mathematics Teachers

1. How do you understand continuous assessment?
2. Some people say continuous assessment enables learners simply to pass from grade to grade, as they are not properly assessed. How do you react on this?
3. What do you think the major problems that hinder you from practicing continuous assessment in your mathematics teaching?
4. How do you see about the school environment in conducting continuous assessment? Is there enough instructional material for doing so? Are there encouraging situations? Are there trainings given for you?
5. What type of assessment is most beneficial to learners? Give reasons for your answer?
6. How is assessment carried out in your classroom?

Focus group Discussion for the School Director and some Department Head

1. Do you think that continuous assessment is properly used in the school?
2. What factors do hamper the use of continuous assessment?