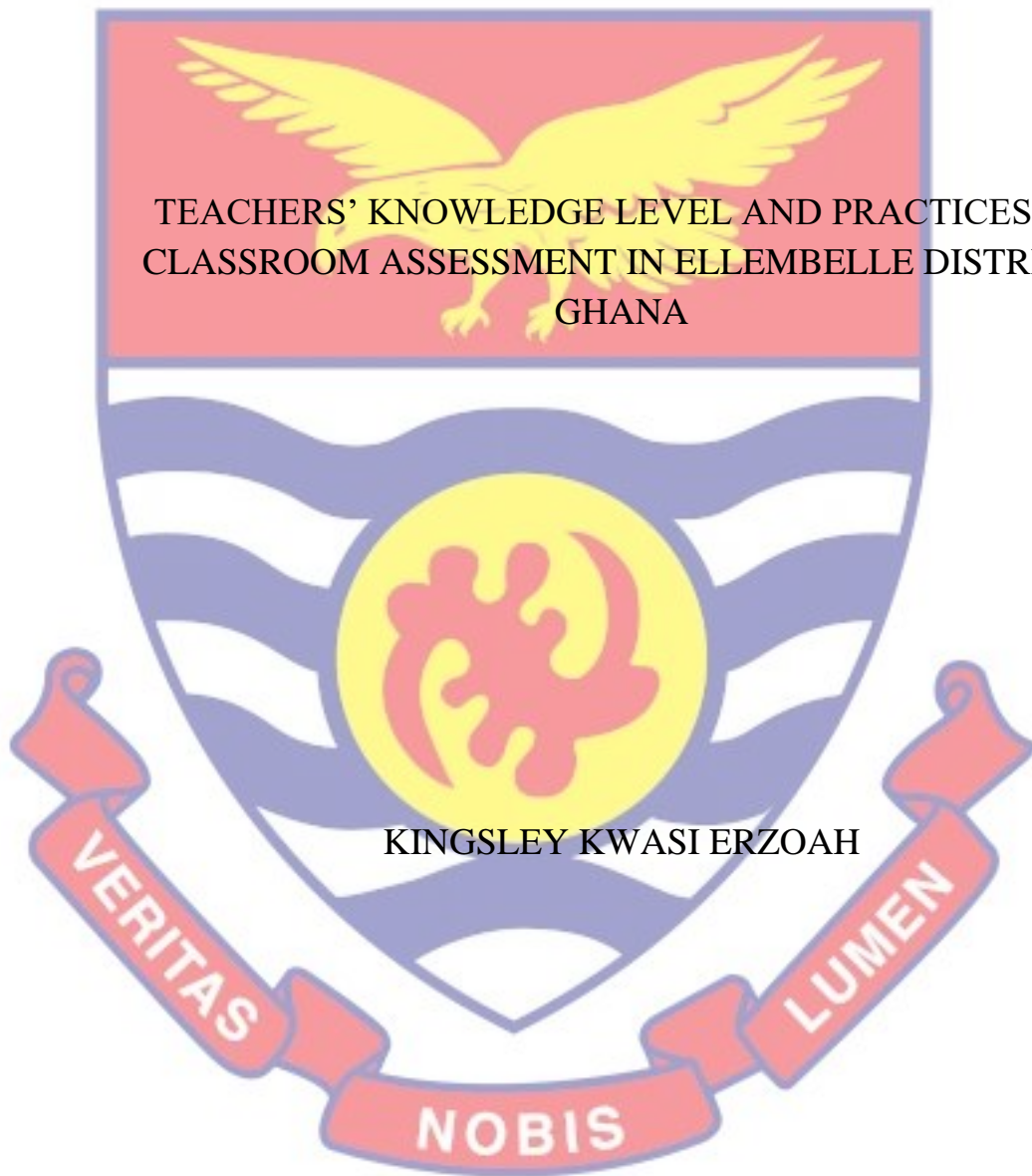


UNIVERSITY OF CAPE COAST



2022

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TEACHERS' KNOWLEDGE LEVEL AND PRACTICES OF
CLASSROOM ASSESSMENT IN ELLEMBELLE DISTRICT

BY
KINGSLEY KWASIERZOAH

Thesis submitted to the Department of Education and Psychology
of the Faculty of Educational Foundations, College of Education
Studies, University of Cape Coast, in partial fulfilment of the
requirement for the award of Masters of Philosophy degree in
Measurement and Evaluation

October 2022

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature:..... Date:.....

Name:.....

Supervisors' Declaration

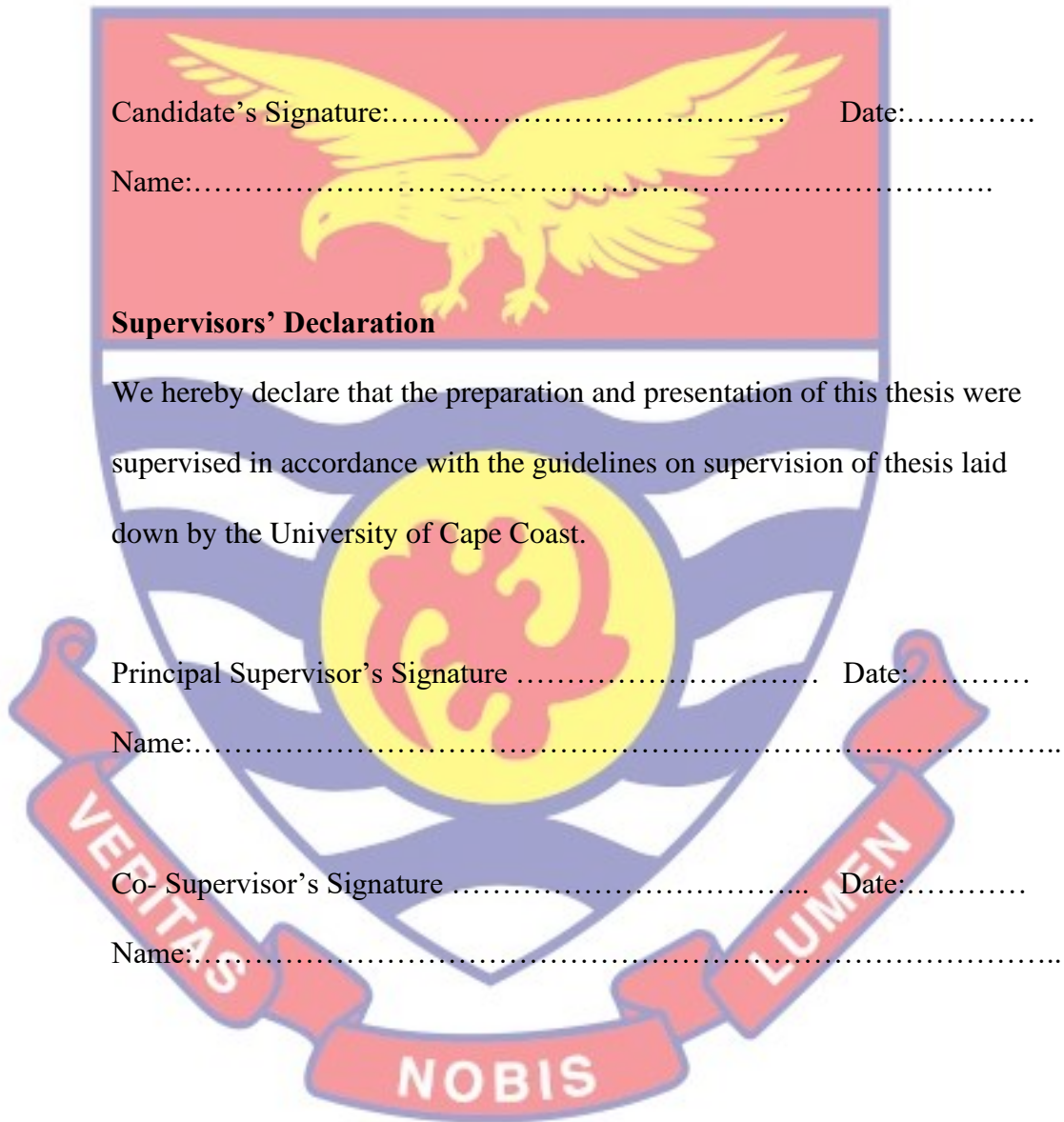
We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

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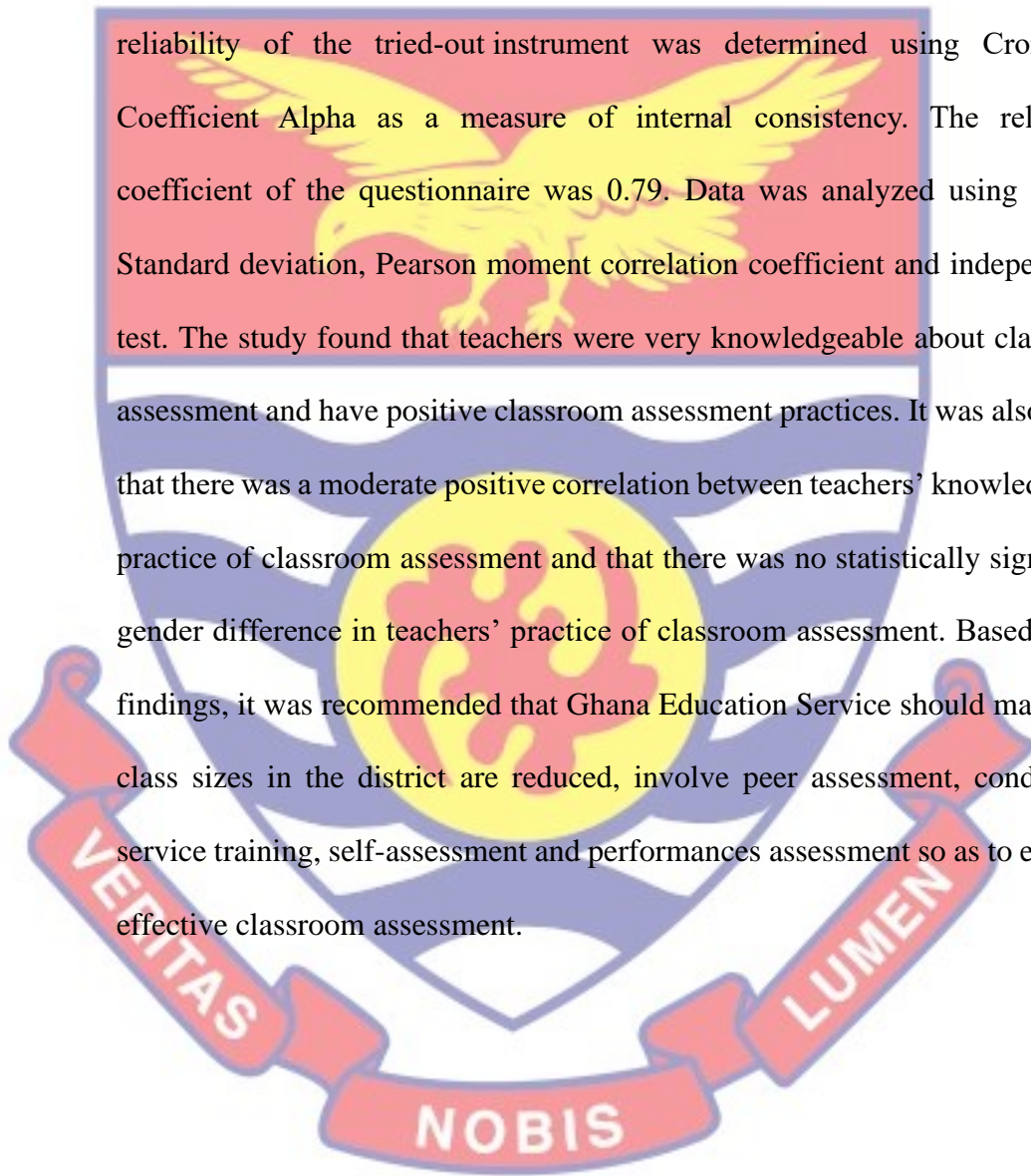
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ABSTRACT

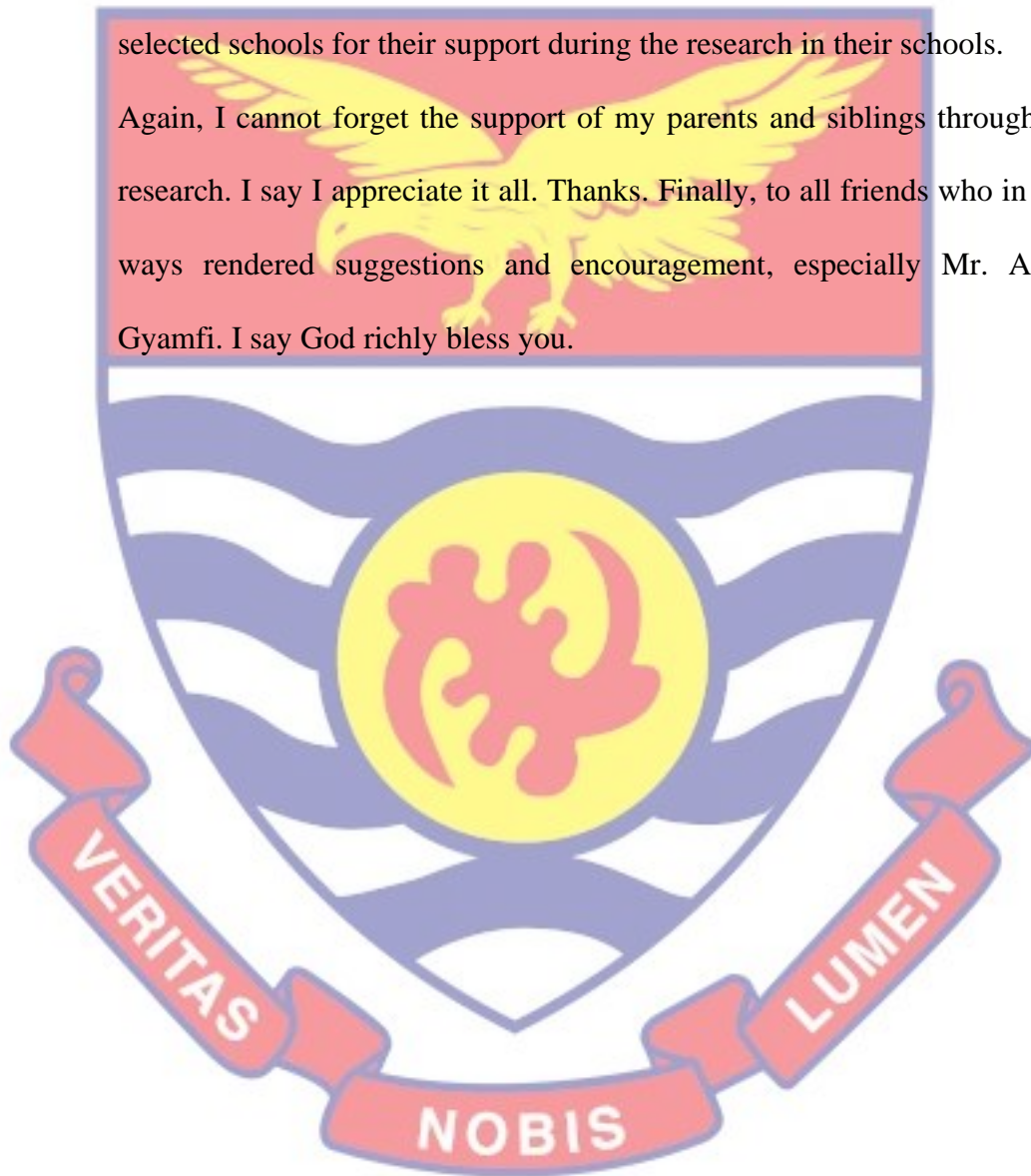
The purpose of this research work was to ascertain the knowledge level and practice of teachers on classroom assessment in the Ellembelle District. Multistage Sampling approach was employed to select 207 participants for the study. Questionnaire was used as the main data collection instrument. The reliability of the tried-out instrument was determined using Cronbach's Coefficient Alpha as a measure of internal consistency. The reliability coefficient of the questionnaire was 0.79. Data was analyzed using Means, Standard deviation, Pearson moment correlation coefficient and independent t test. The study found that teachers were very knowledgeable about classroom assessment and have positive classroom assessment practices. It was also found that there was a moderate positive correlation between teachers' knowledge and practice of classroom assessment and that there was no statistically significant gender difference in teachers' practice of classroom assessment. Based on the findings, it was recommended that Ghana Education Service should make sure class sizes in the district are reduced, involve peer assessment, conduct in-service training, self-assessment and performances assessment so as to enhance effective classroom assessment.



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Firstly, I would like to thank my level-headed, level-minded and avuncular supervisors, Prof. Y. K. A. Etsey and Prof. Eric Anane, for their commitment, dedication, assistance and directions for my research. I would also, like to express my heartfelt of gratitude to the Headteachers and teachers of the selected schools for their support during the research in their schools.

Again, I cannot forget the support of my parents and siblings throughout the research. I say I appreciate it all. Thanks. Finally, to all friends who in diverse ways rendered suggestions and encouragement, especially Mr. Abraham Gyamfi. I say God richly bless you.



DEDICATION

To my daughters, Allu-Ebela Erzoah and Nyameke Manza-Eba Erzoah



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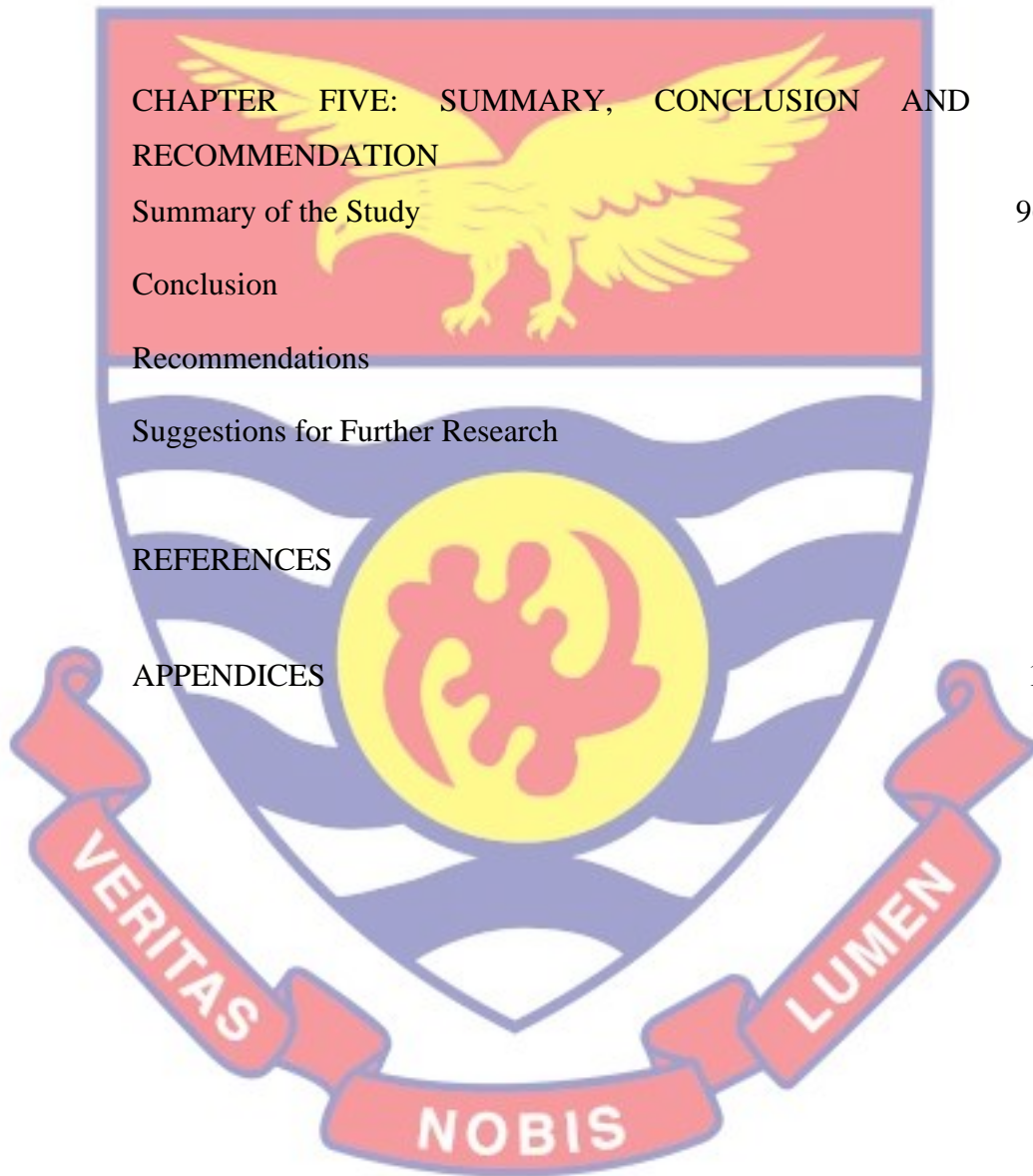
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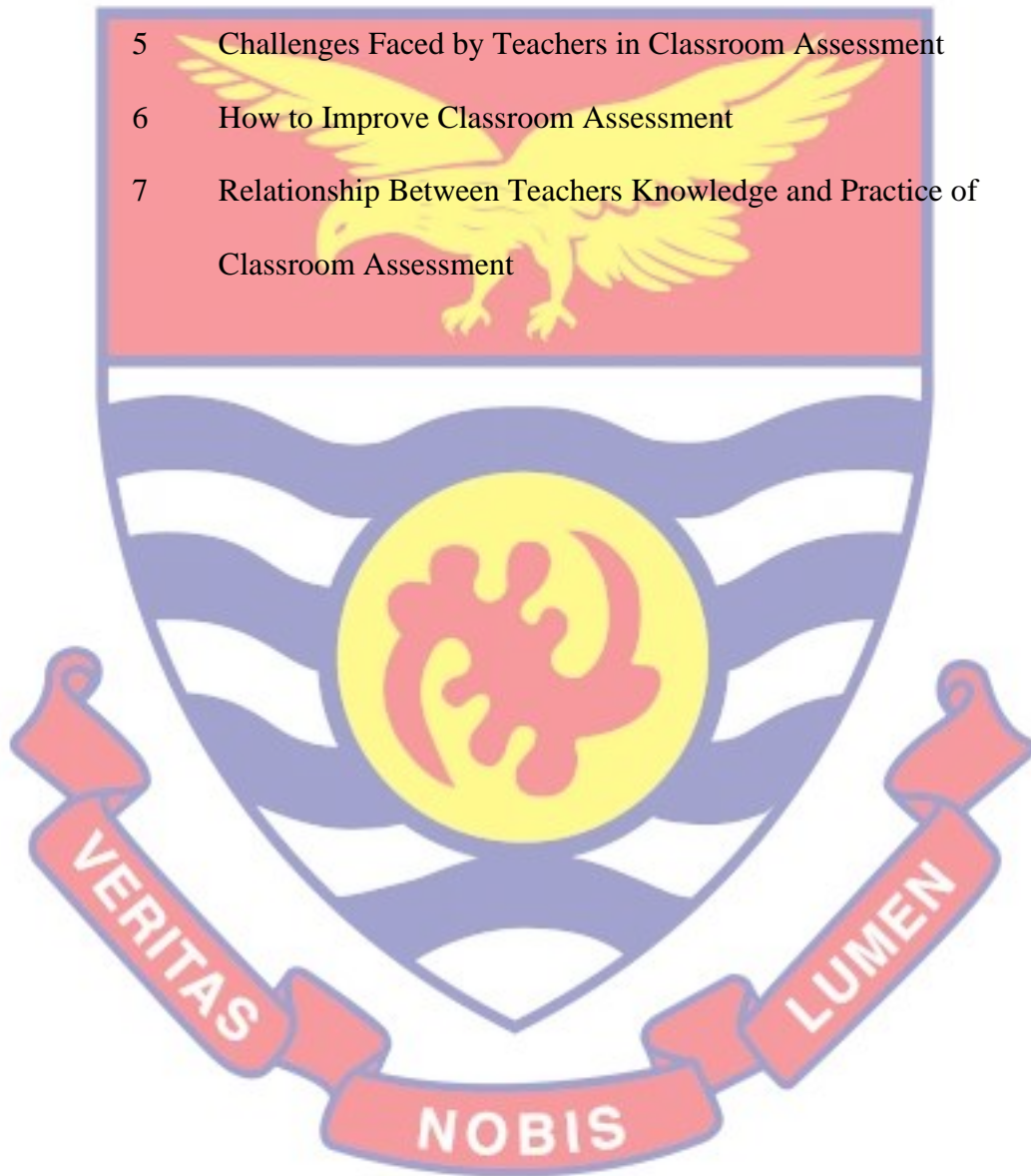
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CHAPTER ONE

INTRODUCTION

Over the last decade, the issue of theory and teachers' knowledge and practice classroom assessment has increasingly become of interest to scholars. The study is concerned with teachers' knowledge and how they practice classroom assessment in the Ellembelle district. Generally, the provision knowledge and skills that prepares students for life is the main goal of education. In the classroom, teachers are expected to adopt effective and efficient assessment strategies that help students to show evidence of having learnt the expected knowledge and skills for life. This would improve the processes of teaching and learning in schools. In order to enhance classroom assessment, teachers' knowledge about classroom assessment is important as well as the classroom practices adopted by the teachers. Additionally, the challenges confronting teachers and solutions to combat the challenges are important issues to be dealt with. Assessment strategies adopted by teachers depend on the theory from which their motivation is based. Assessment strategies based on the behaviourist theory are quite different from that of the constructivist theory.

Background to the Study

Assessment has become a common word used in almost every discourse. The term, assessment, is used at church, playground, and predominantly, the classroom. According to Etsey (as cited in Yeboah, Gyamfi & Sam, 2018), Assessment is a process of gathering data on students, programmes, curricula, and educational policy. Etsey went on to say that assessment encompasses a wide range of procedures for gathering data on a

student's learning and progress. Therefore, classroom assessment is viewed as the overall processes of obtaining data, either through test or observation for making decisions on the students with regard to their promotions, selections and instructions. In Ghana's educational system, classroom assessment is critical to effective instruction and learning. Teachers conduct assessments and give feedback to students, guardians, and the general public. Assessment in schools is indeed considered as one of the effective approaches for improving students learning (Faleye & Ojerinde-Dibu, 2005). It also offers opportunity for instructional practices, and a useful basis for self-assessment (Boston, 2002). Teachers are expected to use the assessment data to help them make informed decisions, especially in the areas of learner identification, retraining, correction, and progress monitoring (Black & Wiliam, 1998). Classroom assessment is considered to be important as it provides timely indication of students' level of attainment. It leads and enhances teaching as well as examines students' understanding of concepts (Hurley & Tinajaro, 2001). It offers daily assistance for classroom instruction, which is the basis for attaining success in school and educational improvement (Stiggins, 1999), and also assisting teachers in identifying the weaknesses and strengths in their teaching, and encouraging them to seek out innovative methods of improving classroom instructions (Shepard, 2000).

Teachers must have significant assessment knowledge and be able to apply that knowledge to inform curriculum and instruction; nevertheless, despite these expectations, there are well-documented gaps in teachers' assessment knowledge and training (Brookhart, 2001; Campbell & Evans, 2006). A personal observation as a School Improvement Support Officer (SISO)

of teachers in Ellembelle District revealed that there are gaps in the teachers' practice of classroom assessment as compare to assessment principles.

The terms "classroom assessment," according to Airasian (1991), bring to mind memories of learners taking paper-and-pencil tests, instructors marking it, and students earning grades based on their test results. There is a common misunderstanding that assessment is synonymous with examinations and tests. Some teachers are reluctant to employ various forms of assessment because they believe they lack the necessary knowledge to accurately assess students with them (Airasian, 1991).

Teachers rarely used different instruments such as projects, checklist, classwork, observations, practical activities, rating scales, tests, inventory and anecdotal reports, according to a study conducted by the Nigeria Educational Research and Development Council (2006) on continuous assessment practices in Nigerian Primary and Junior Secondary Schools. Dibu-Ojerinde (2005), posits that assessment causes challenges for Nigerian teachers because they have several obligations. The teacher has an excessive number of students to teach, which implies he or she has a large number of scripts to mark. According to Shorrocks-Taylor (1999), teachers usually embrace the notion of classroom evaluation, but many struggles to put it into practice on a regular basis. Large class sizes and lengthy curricular requirements as well as an insufficient attention and resources in improving the classroom assessment process, are the key roadblocks (OECD, 2005).

Ogan-Bekiroglu (2009) investigated the attitudes toward and competence in educational assessment of 46 Turkish instructors who had completed an educational assessment course using a parallel mixed-

methodology approach. The findings revealed that, while instructors held constructivist ideas and a higher level of competence when it came to educational assessment, they had some issues with practicing assessment. When implementing modifications in educational system, Ogan-Bekiroglu (2009) found that instructors' knowledge and attitudes concerning assessment in education should be taken into account. Teachers do not need to be experts in educational measurement and evaluation to develop valid and accurate tests. However, there are several fundamental classroom assessment qualities that every teacher should have to craft quality test items. These qualities aid teachers in structuring items in such a way that they elicit clear and succinct responses from students. They develop test items that are acceptable for students of all ages, abilities, gender, and setting tests so that students finish on time and are not frightened by them. (Ali as cited in Agu, Anyichie & Onyekuba, 2013). If teachers are not equipped with the skills in classroom assessment, it is most probable that they may produce assessment results which may lack a higher degree of reliability.

There are divergent views on the influence of gender on teachers' practice of classroom assessment. Alkharusi (2011) in a study found out that there is a significant difference in classroom assessment practices based on gender. However, Ndalichako (2004) found that there is no significant difference in male and female teachers in classroom assessment practice. It is therefore, necessary to investigate if there is gender difference in classroom assessment of teachers in the Ellembelle district.

Studies have shown that there is a strong positive relationship between teachers' knowledge in classroom assessment practices (Amoako, Asamoah & Bortey, 2019; Calveric, 2010). This means that all things being equal, how teachers practice classroom assessments depend on their knowledge in classroom assessment. In this study, there relationship between teachers' knowledge and classroom assessment is investigated.

Assessment activities must not only provide the primary needs of feedback and certification to learners about their present educational success, but should also aid them in their lifelong education (Boud & Falchikov, 2006). Once they leave the limits of a formal education system, graduates will have to be capable of making their independent evaluations regarding themselves, their achievements and learning within society. It is characterized by super-complexity, according to Barnett (1999), in which knowledge of what is necessary in a work change regularly. Workers will need to be able to learn and adapt as a result of their experiences and thoughts in such a world (Duke, 2002).

Statement of the Problem

Assessment in Ghanaian schools, is central to quality and effective classroom instruction. Teachers cannot determine the difference between what was presented and what is really being learned until assessments are carried out. Teachers construct, conduct, and analyse assessments on topics that they consider vital to them. In order to inform the instructional process, teachers ought to be competent and capable to develop assessment instruments that are valid and reliable. Notwithstanding these expectations, there are well-documented limitations in teachers' knowledge and training in assessment (Brookhart 2001; Campbell 2000; Melter & Campbell 2005).

Teachers had difficulty developing assessment in school systems, where assessments were utilized primarily for promoting learning via targeted instruction instead of giving summative reports on students (Hill, 2000).

In a study by Quagrain (1992) in the Western Region of Ghana revealed that some teachers had limited skills for classroom assessment. A couple of plausible reasons for such a weakness can be deduced, Stiggins (as cited in Agu, et al, 2013). It is possible that either the teachers did not receive adequate preparation for classroom assessment in their pre-service training due to a complete lack of importance placed on assessment throughout their professional growth or that the majority of the teachers did not obtain the skills required for classroom assessment in constructing quality test items while they were being trained.

Previous research indicated lack of skills and competency in tutors' knowledge in assessment practices in the teacher training colleges (Amedahe, 1989; Etsey, 2003). As a result, it appears that teachers who teach at the primary school level may be at disadvantaged by the insufficient skills of teachers who are expected to provide them with testing practice training at the various teacher training institutions. This phenomenon may not be different from the situation in Ellembelle District. Because pupils' learning is tied to classroom assessment, there is the need for evidence on teacher practice and knowledge in classroom assessment. It is in light of this that the study was conducted as an empirical study to ascertain teachers' knowledge level and practice in classroom assessment in Ellembelle District.

Purpose of the Study

The main objective of the study is to ascertain the knowledge level and practice of teachers in classroom assessment in the Ellebelle District. The study aims to achieve the following specific objectives:

1. The knowledge level of teachers in the Ellebelle District in classroom assessment
2. The practice of teachers in the Ellebelle District in classroom assessment.
3. The challenges faced by teachers in practicing classroom assessment.
4. How classroom assessment in the Ellebelle District can be improved.
5. The correlation between teachers' knowledge level and practice of classroom assessment.
6. The difference between male and female teachers' practice of classroom assessment.

Research Questions

In order to achieve the above stated objectives, the following research questions were developed.

1. What is teachers' knowledge level in classroom assessment at Ellebelle District?
2. How do teachers of Ellebelle District practice classroom assessment?
3. What are the challenges faced by teachers in practicing classroom assessment in the Ellebelle District?

4. How can classroom assessment be improved in the Ellembelle District?

Research Hypotheses

The under listed research hypotheses were developed and tested at a significance level of 0.05.

Hypothesis 1

H₀: There is no statistically significance relationship between Teachers' knowledge and practice of classroom assessment.

H₁: There is a statistically significance relationship between teachers' knowledge and practice of classroom assessment.

Hypothesis 2

H₀: There is no statistically significance difference in teachers' practice of classroom assessment on the basis of gender

H₁: There is a statistically significance difference in teachers' practice of classroom assessment on the basis of gender.

Significance of the Study

This work would really be essential in that it would provide additional insight on the difficulties that Ghanaian teachers face when it comes to classroom assessment. The findings would be beneficial to Ministry of Education, NaCCA and Ghana Education Service. The findings of the study would inform these authorities on the knowledge and practices as well as the challenges teachers face in practicing classroom assessment. With this inform workshops, in serve training and seminars could be organized for teachers to improve their practices of classroom assessment.

Lastly, the results of this study will inspire researchers to conduct additional research in assessment so as to add to the pool of knowledge in this area.

Delimitations

Geographically, this work focused on teachers in the Ellembelle District.

There are three districts in the Nzema area with common geographical features as well as economical and educational activities but the study was delimited to Ellembelle district only.

Teachers were selected as the study's primary respondents since they are the ones who are directly involved in classroom assessments. Even though pupils can provide information on the practice of classroom assessment by teachers, the study focused on teachers.

Also, the study was delimited to teachers' knowledge, strategies, challenges and ways to handle challenges associated with classroom assessment. Other variables such as teachers' attitude towards classroom assessment were not investigated.

Limitations

The study's main limitation was the teachers' lack of enthusiasm for research and, in particular, the completion of questionnaires. As a result, some questionnaires were unable to be retrieved, and others were not prepared to respond to the questionnaire. This affected the sample size proposed for the study. Ideally, nationwide research is needed. Any generalization made would have gained a significant amount of credibility as a result of this. As a result, the Ellembelle District of Ghana was chosen.

Operational Definition of Terms

Classroom assessment – the collection, interpretation, and use of information to help teachers make better decisions about learners in the classroom.

Classroom assessment practice – the process of teachers determining the level of students' performance through a variety of activities, starting with the development of the assessment tool and ending with the analysis of the assessment results.

Teachers' knowledge level - Knowledge level is the description of a teacher's expertise at a level that is distinct and independent from his/her internal symbol-level representation.

Organization of the Study

This work has five chapters. The background of the study, as well as the study's objectives, research questions, significance, delimitations, limitations, and thesis outline, were all introduced in the first chapter. On the classroom assessments, Chapter Two discusses the research questions being investigated by placing the study within its broader historical and institutional framework. The final section of this chapter goes over the key conceptual and theoretical literature that influenced the study's design and execution.

The study's methodology and research strategy are presented in Chapter Three. The approach covers the study paradigm, research design, population, sample size, and sampling methodologies, research instrument and its piloting, data collection and analysis procedures, and ethical considerations. Discussion of research findings and presentation from the perspective of the research participants through a thorough and in-depth analysis of the data acquired in the

field are presented in chapter four. The findings, conclusions, and recommendations are summarized in Chapter 5.



CHAPTER TWO

LITERATURE REVIEW

Introduction

This aspect of the study is about reviewed works of other researchers about assessment. The chapter is organized in three themes namely theoretical review, conceptual review and empirical review.

Theoretical Reviews

In order to better explain and describe learning and classroom assessment procedures, a variety of theoretical perspectives have been investigated. (Eames & Cates, 2011). These theories include anything from behavioural theories to cognitive development theories, experimental theories, and sociocultural perspectives on learning and assessment.

Behaviourism on learning and assessment

The focus of behavioural learning and assessment is on how the external world influences and modifies people's behaviour (Mowrer & Klein, 1989). The primary tenet of behaviourism is that competence may be achieved by dividing activities and tasks into smaller phases. The completion of each phase is acknowledged and reinforced, offering encouragement to move to the next step. Learning and assessment impact transfer of pedagogical skills in education (Miller & Seller, 1990). This is important for teachers, who are seen as the depository of knowledge, to convey expertise, attitudes and skills to students, who are also required to produce whenever the situation requires it.

According to Shepard (2000), the behaviourist approach to learning is inextricably linked to instruction and formal assessment. The latter was an

objective test to see if the learner was ready to advance to the next level of education. The holistic and subjective forms of summative assessment linked to each learner are perceived as inappropriate since teachers believe that assessments must be completed evenly to ensure fairness. Therefore, they may be hesitant to undertake more thorough, tailored assessments (Shephard, 2000).

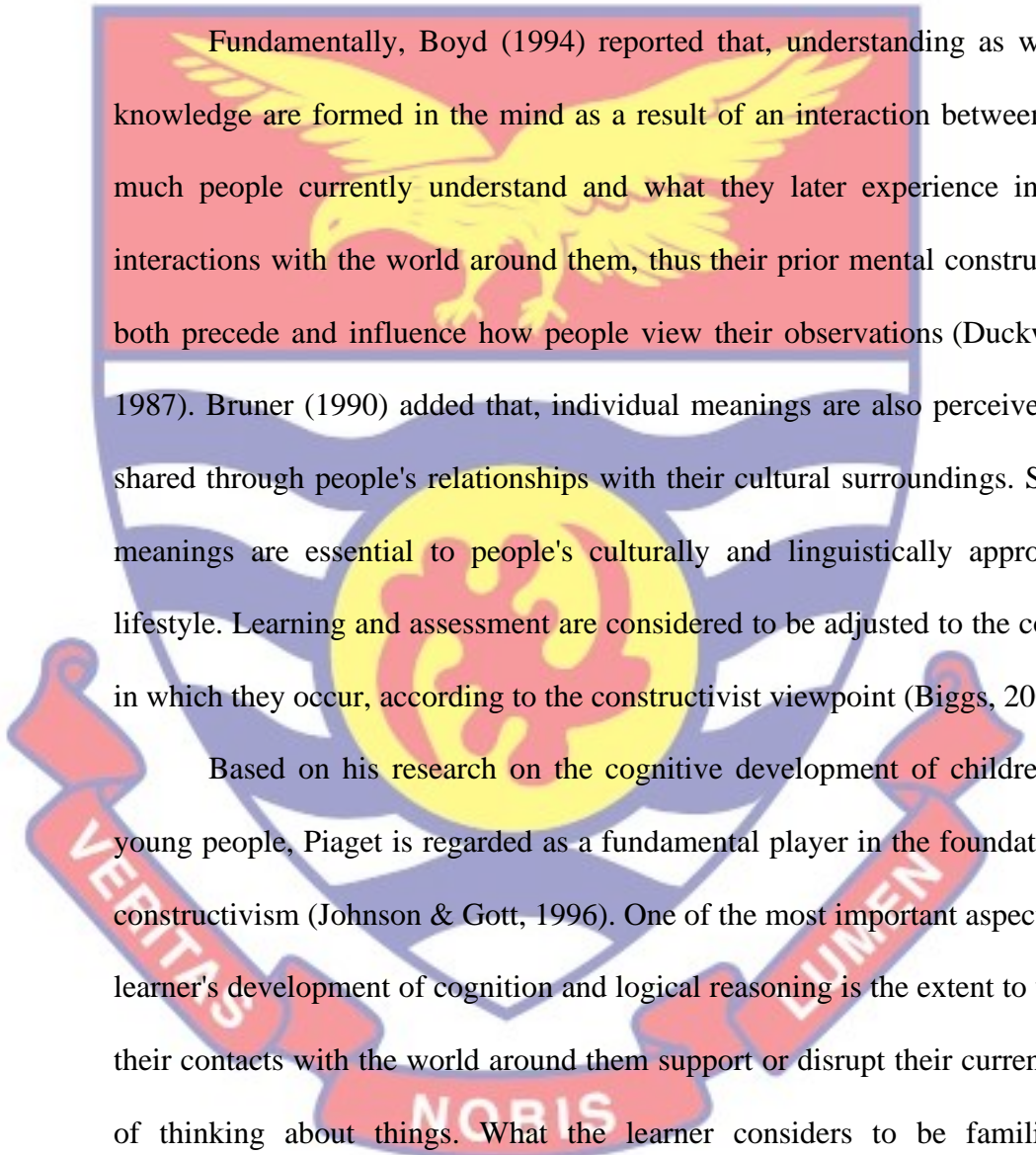
Shepard (2000) reported that the use of consistent evaluation methods poses difficulties of validity and reliability, which are frequently based on the behaviourist viewpoint. This is predicated on the premise of a set curriculum with consistent outcomes and performance goals for all students. The major criticism of the behaviourist approach to learning and assessment is that, it assumes a simple and automatic perspective of people who are influenced by their outer world (Bruning, Schraw & Renning, 1999). In other words, rather than viewing learners as agents of their own learning, behaviourism focuses on how they react to environmental stimuli.

The implication of the behaviourist theory to classroom assessment is that, in the assessment students should be made principal stakeholders of the classroom. This places formative assessment in a better position for classroom assessment ahead of summative assessment. Again, for effective classroom assessment, the assessment procedures and conditions should be the same for all the students. This is because, the behaviourist believes that students react to stimulus from the environment in the same direction and degree.

Cognitive Views of learning and assessment

Constructivism in its various manifestations is one perspective that has had a significant impact on education. According to Bruner (1990), meaning as well as the processes and transactions involved in its production, are key

concepts in human psychology. In constructivism, the learner as a meaning builder appears to be a common concept, with the idea that meaning and knowledge are formed through the interaction of new stimuli and ideas with an individual's existing knowledge and learning experiences (Tobin & Tippins, 1993).



Fundamentally, Boyd (1994) reported that, understanding as well as knowledge are formed in the mind as a result of an interaction between how much people currently understand and what they later experience in their interactions with the world around them, thus their prior mental constructions both precede and influence how people view their observations (Duckworth, 1987). Bruner (1990) added that, individual meanings are also perceived and shared through people's relationships with their cultural surroundings. Shared meanings are essential to people's culturally and linguistically appropriate lifestyle. Learning and assessment are considered to be adjusted to the context in which they occur, according to the constructivist viewpoint (Biggs, 2003).

Based on his research on the cognitive development of children and young people, Piaget is regarded as a fundamental player in the foundation of constructivism (Johnson & Gott, 1996). One of the most important aspects of a learner's development of cognition and logical reasoning is the extent to which their contacts with the world around them support or disrupt their current way of thinking about things. What the learner considers to be familiar or comparable to previous experiences can be integrated into his or her existing knowledge or internal cognitive processes. The learner must adjust to the unfamiliar or novel experience. This demands adjustments in the learner's cognitive structures and ways of thinking about the environment. (Piaget, 1950).

Piaget (1950) proposed that a learner's cognitive development can be enhanced throughout their lifetime by achieving a balance between assimilating and accommodating new knowledge, which he refers to as the equilibrium process. This process includes the learner addressing previous ways of thinking about things that are in contradiction with or do not easily fit with their perception of a new situation, resulting in cognitive conflict. According to Piaget (1950), this is a difficult process that might lead to the learner's disequilibrium. This can occasionally lead to a learner's reluctance to modify their way of thinking, even when there is compelling evidence to support it (Kamiloff-Smith & Inhelder, 1975).

Piaget's theory of equilibration was linked to cooperative education (Eames & Cates, 2011). They believe that introducing students to the workplace makes the transition from classroom to job learning easier. This parallel development of reasoning and thinking in the two contexts serves to keep the learner's cognitive growth and logical thinking in check without disrupting their equilibrium: citing Piaget's cognitive theory of assimilation and accommodation of knowledge and acknowledging the potential for disequilibrium, Winter (2003) believes that assessment practices must understand that learning is a progressive process, so Learners require time to process and make sense of what they learn.

These constructivist perspectives on learning have significant implications for cooperative education assessment. To begin with, students' starting points are likely to be diverse, with varying levels of prior job and life experiences. As a result, assessment must recognize that each student learns something different from their point of view, with each having potential value

and merit. Secondly, pupils must be prepared for their perspective in such a manner that they may rely on their previous knowledge schemas and link them to the possible stimuli provided by the environment. . Assessment must devise methods for examining their reactions to both intellectual and emotional encounters. Thirdly, students must be able to connect their prior experiences and knowledge with job place practices through assessment. Again, emphasis should be placed on students' procedural and conditional knowledge. Finally, it is advisable to allow for both verbal and imagined representations of learning while educating students for academic work and afterwards measuring their learning.

Experiential learning and assessment

Experiential learning theory's philosophies have long been linked to education. John Dewey (1938), an influential educational philosopher, coining the phrase "learning by doing." believed that experience is a key component of learning and assessment, and that learning is best when human beings actually experiencing the phenomena under investigation. Learning by doing is an activity-oriented method in education, according to Gentry (1990), in which students must be participating in the learning and assessment process, and learning should be active rather than passive. Experiential learning is regarded to be outside the cognitive component and encompasses affective and behavioural aspects of learning due to its active nature (Hoover & Whitehead, 1979).

Experiential learning is noted for its cyclical structure, which can be traced back to John Dewey's (1938) perspective of experience as a continuous process. The idea of continuity of experience states that every experience

absorbs something from the previous one and alters the quality of the subsequent ones in some way. In other words, every student's experience teaches them fresh perspective, which in turn teaches them new cognitive frameworks for seeing succeeding experiences, and so on. Individuals interact with whatever defines their surroundings inside a specific context in each experience. The two ideas of continuity and interaction are inextricably linked, according to Dewey, because each connection determines our future.

While people's learning is shaped by their experiences, they are incapable of producing meaningful and intelligent results if they lack passion, purpose, and means. People's desires and sentiments, according to Dewey (1938), are the ultimate moving principles of action. Purpose entails examining people's current circumstances, applying prior knowledge from similar situations, and then making decisions based on the combination of current observation and prior knowledge. Means are defined as the process of transforming desires and goals into a plan of action. Dewey emphasized that teachers have a critical role to play in setting the ideal conditions for learners to take purposeful action. The instructor must engage with pupils in order for them to be cognizant about their capabilities, needs, and previous experiences. In terms of education, it would appear that those preparing learners for academic work must pay close attention to their prior experiences and knowledge. While students surely have a strong desire to succeed in their chosen fields, they may lack the required skills to do so effectively.

It is advisable to engage with students to enable them to identify their own capabilities and limitations and utilize it as a personal action plan or set of independent objectives for their assignment while assisting them in developing

such abilities. Students may also be urged to examine what they perceive to be relevant and then reflect on their findings in a manner consistent with their previous knowledge and experience. According to experiential learning theory, effective classroom assessment necessitates students' engagement in the assessment. This fixes the experiential learning theory into classroom assessment.

Sociocultural views of learning and assessment

Sternberg (1988) stated that, theories of cognition, such as constructivism, looked at learning from the standpoint of internal mental processing, whereby an expertise was largely determined by intellectual and cognitive capability. According to a constructivist perspective of knowledge, learners create new knowledge from engagement with the environment surrounding them. As a result, people are "meaning makers", learning through the combination of new information with their past learning and knowledge experiences. This perspective offers the idea that the student internalizes knowledge. Lave and Wenger (1996) added that, this is primarily a mental exercise, it is all too easy to disregard it as a simple process of receiving the given as a matter of transmission and assimilation.

Wertsch (1991) posited that, social constructivists believe learning takes place in a social context. Therefore, individuals acquire new information by creating knowledge through interaction and influence from their social world. As a result, an individual's conceptions are influenced through their past knowledge, as well as peers, contextual experiences, and social interactions in their specific learning environment (Good, Wandersee, & St Julien, 1993).

People, in effect, make connections from the world in their thoughts by their direct involvement in social environment.

Vygotsky (1981) believed that cognitive processes are inextricably linked to social interactions. Also, learning cannot solely be described through the internal assimilation and accommodation of new information but should therefore, take into account how learners are incorporated into a "knowledge community". The human mind and how it creates knowledge are socially integrated. Significantly, Vygotsky maintained that the roots and stimulus for individual cognitive performance and higher mental functioning are created by the social dimension of consciousness.

Vygotsky (1978) believed that the social setting produces its own culture, which is communicated via both physical (graphic, verbal, and gestural indicators) and psychological (linguistic) means. Vygotsky's concept of knowledge development has two components that need to be explored further. To begin with, it is obvious that the psychological and physical instruments used in a social setting serve as a potential mediator for individual to make meaning. According to Knox and Stevens (1993), the instruments used are essentially symbolic, and the meaning embedded inside them is what matters. Culture is the product of people's social action and social life. So simply bringing up the issue of cultural evolution of behaviour is equivalent to bringing up the social plane of development (Vygotsky, 1981). Vygotsky, as one of the social constructivists, saw social activity as developing mutual understandings and individual mental constructs through its cultural forms and within its cultural environments. Therefore, meaning and reality are socially produced by members within cultures (Kukla, 2000). These relationships are

socially determined, and this has an impact on the knowledge that is communicated and the learning that is derived (Goodnow, 1990).

It is indeed important to consider how learning is placed and shared across cultural environments within professional learning communities because of the assessment ramifications of social and cultural construction of learning.

This necessitates assessing the emergent, informal learning that takes place in a community of work practice rather than the pre-determined, formal learning that takes place in a community of education practice.

The implications of the theories provide the framework for classroom assessment. Adaptation of one theory to classroom assessment will not be enough to produce the required results of classroom assessment. It is thereby necessary for classroom teachers to be knowledgeable about these theories and their implications in order to properly incorporate them in classroom assessment. Each of the assessments used by teachers is associated with a particular theory hence the need to appreciate the theories to effective and efficient classroom assessment.

Conceptual Review

Concept of assessment

Assessment is a systematic method of acquiring data on student's achievement that serves as essential element of teaching and learning. (Dhindsa, Omar, & Waldrip, 2007). According to Etsey (2012), Assessment is the gathering of data that is used to make decisions regarding students, programmes, policies, and curricula. To him, it covers a range of procedures which could either be formal as in pencil and paper tests or informal as in

observation, interview and the likes for obtaining information about students' learning as in the education setting.

Allen (2004), defines educational assessment as a structured approach of collecting and analyzing empirical data on attitudes, knowledge, beliefs and skills, to revise programmes and enhance students' learning. Assessment data may originate through specifically evaluating learners' work to identify their academic achievement. It may also come from data that can be used to draw conclusions concerning learning. (Kuh, Jankowski & Ikenberry, 2014).

Educational assessment is a creation of the twentieth century. To distinguish between the roles of evaluation, Scriven (1967) advocates the use of formative and summative assessments. As a result, assessment is thought to serve two purposes: informative to improve education and summative to assess students' progress. According to Gordon (2008), in addition to accountability goals, the use of assessment to classify, forecast, and sort has altered to promote the teaching and learning process. Gyimah, Ntim, and Deku (2012), also ascertained that assessment can be grouped into two different kinds: informal and formal assessments. Informal assessment as defined by Gyimah, Ntim, and Deku (2012), is the form of assessment without any formality. It is very flexible and done without any strict rules or regular form. It can be used at any time without interfering in the instructional time. Smith, Polloway, Patton and Dowdy (2012) also ascertained that informal assessments are usually loosely structured techniques which are more closely tied to teaching. According to Gyimah, Ntim, and Deku, (2012), informal assessment could be: (i) those that utilize test items such as teacher- made tests, curriculum-based assessment,

portfolio assessment and others; and (ii) those that do not utilize test items such as ecological assessment, observation, interview, checklist and rating scales.

Formal assessment procedures, on the other hand, are the assessments that are more structured with specific rules for item construction, administration, scoring and interpretation of the results (Lewis & McLoughlin, 1990). This means that formal assessment unlike informal assessment has specific time for administering and has a well-developed test manual that specifies the test and item specifications. Also, it has its accompanying scoring rubrics. Formal assessment procedures include achievement tests and standardized tests (Gyimah, Ntim, & Deku, 2012).

Based on its usefulness, assessment has undergone many changes with the aim of obtaining educationally - relevant information for making decisions about the student and educational programmes (Crocker & Algina, 2008). For example, the first form of assessment was for one person at a time but with time, research and development into assessment, saw the birth of mass examination and assessment for school pupils as it pertains in Ghana now.

According to Hodges (2014), Any educational program's main purpose is to make it easier for students to learn. Assessment is inextricably tied to student learning and achievement in educational programmes. The assessment of a student's performance and learning must take into account both soft and hard skills and involve a variety of evaluators. According to Struyven, Dochy, and Janssens (2005), the impact of assessment on students' performance is evident. Students' attitudes about learning influence how they approach classroom assignments and examinations. Classroom assessment, according to Pellegrino and Goldman (2008) and Shepard (2000), can be enhanced for

promoting learning, including the content and characteristics of assessment, the use of assessment data, and the inclusion of assessment as a course in educational programmes.

Since assessment has such a major impact on students' learning approaches, assessment patterns have changed to assessing learning of students instead of testing students' learning. (Birenbaum & Feidman, 1998). According to Gulikers et al, (2006), Current assessment methods aim to improve the consistency between what learners have to study and what they would be required to know after they have completed their studies. However, the question of whether kids are taught to excel on a test or to develop meaning that will last mostly in long run continues to be debated.

Although teachers and administrators often choose assessment forms and assignments, the aim of assessment varies among many stakeholders (Cavangah, Waldrip, Romanoski & Dorman, 2005). These stakeholders include learners, parents, policymakers, school and teachers. Given that both students' interests and teachers' reasoning may impact how students' progress with learning, and how it is tested, including students' and teachers' opinions in the design of assessment instruments would be reasonable.

Goodrum et al. (2005) argued that, assessment should usually improve learning, present students with feedback on their performance, develop self-confidence as well as self-esteem, and improve evaluation abilities. Furthermore, they maintain that students learn effectively when there is harmony in instruction, evaluation, and outcomes. As a result of its high correlation with teaching and learning outcomes, assessment plays an important

role in learning. Although there is minimal evidence that students should be included in making decision on assessment task, research work conducted by Fisher, Waldrip, and Dorman (2005) suggested that student involvement in classroom assessment ought to be investigated.

Assessment, according to Goodrum, Hackling, and Rennie (2001), is an important part of the teaching and learning process. This means that successful classroom assessments are critical to effective teaching and learning. The issue has been that teachers only use limited number of assessment procedures in practice, but there is less evidence to ascertain the fact that they normally use formative assessment to guide planning and instruction (Goodrum et al., 2001).

Brown and Pendlebury (as cited in Hodges, 2014) indicated that the primary goal of assessment is to provide the learner with direction and feedback on their progress. The nature and scope of this feedback and guidance is influenced by the goal of assessment. Assessment serves the objective of preparing learners for life, and this is founded on the belief that learning does not occur only during formal education, but also throughout life (Rowntree, 1987). Assessment serves the objective of preparing learners for life, and this is founded on the belief that learning does not occur only during formal education, but also throughout life (Rowntree, 1987). Given the impact of assessment on learning, Rowntree (1987) stated that assessment should encourage students to comprehend their own learning by providing themselves with feedback, rather than relying on others for information about their performance.

While learner-centered learning has improved learners' engagement and participation in teaching and learning in the classroom, it really has not resulted

in a significant transformation in curricula or assessment procedures that could contribute to the desired student outcomes required for life-long learning (Taras, 2002). Given the significance of assessment in the process of learning, Taras (2002) stated that, it is becoming increasingly uncertain if lecturers have been fostering competent, self - reliant, as well as self - governing students, or, even worse, whether such qualities are really being weakened in students during their university years. One of the major constraints of assessment procedures is that, they are normally constructed within the immediacy of student knowledge pertaining to educational curricula, ignoring the role of assessment in learning outside academia and the impact higher education can contribute to it (Boud & Falchikov, 2006).

They further stated that the same emphasis ought to be given together with the well laid down goals of assessment for certification and evaluation to improve current education. The teacher determines the needed learning, the corresponding assessment procedures and requirements, the student's performance, and the grade assigned in traditional assessment methods. As a result of such methods, the student plays a passive rather than active part in assessment. This is contrary to the requirement for long-term assessment approaches that assist learners prepare for life - long learning outside of the classroom (Boud & Falchikov, 2006).

It was again argued that, assessment practices must not only meet the basic needs of certification or constructive feedback on learners' performance, but should also make a significant contribution to their future educational development (Boud & Falchikov, 2006). According to Barnett (1999), learners ought to be capable of making decisions about themselves,

their own achievements, and learning once they leave the boundaries of a formal education context, in such a world as one involving super-complexities in which knowledge of what is required in a job is constantly changing. Duke (2002) also stated that workers will require the ability to learn and change as a result of knowledge and values in such a world.

If assessment is to be sustainable in cooperative education, it must address how it improves in the preparation of students for life. Specifically, particularly, how it supports the development of self-control and development (Boud & Falchikov, 2006). It is essential to evaluate students' perspectives of learning in cooperative education that can guide these assessment practices in order to establish long-term assessment procedures that promote their participation.

Classroom Assessment

Ravitch (1983) stated that, improving students' academic achievement has become a top priority for educators around the world in the early 1890s, when business executives, policymakers, guardians, and the general public recognized that, an educated citizenry was the best guarantee a country could have for a brighter tomorrow. Since then, a variety of educational reforms have already been tested, all with the goal of improving performance in learners.

Guskey (2003) describes classroom assessment as quizzes, examinations, projects, as well as other assessment procedures which educators use on a continuous basis in their lessons to help students improve their learning. In the view of Guskey (2003), teachers have strong conviction about the outcomes of these assessment tools because they are directly related to instructional objectives in the classroom. At the student level, these outcomes are prompt and can be examined easily. It is an ongoing form of assessment in

the classroom with the main goal of assisting learners in determining the degree of their understanding in a particular concept.

According to Koloi-Keaikitse (2012), classroom assessments are tests that teachers develop, conduct, and score as a progressive evaluation of learners. These assessment methods are also used in tracking learners' progress and provide feedback. This definition, like that of Guskey (2003) spells out the prime focus of classroom assessment which is to enhance classroom instruction. Classroom assessment is regarded as an assessment that teachers conduct and geared towards classroom instructional management decisions such as determining whether students have mastered a concept or not, and their strength and weakness with regard to a particular concept.

In the work of Mussawy (2009), classroom assessment was synonymously used as formative assessment and that classroom assessment can interchangeably be used as formative assessment. According to Mussawy (2009), Formative assessment is often used to offer learners with data concerning their expected outcome, to analyze, provide advice and guidance to them. This form of assessment takes place while teaching is ongoing instead of just being a distinct task. It includes self-assessment, non - graded tests, think-aloud, oral questioning and peer assessment exercises in both written and oral forms as also posited by Guskey (2003).

Teachers should, however, modify both their perceptions of assessments and their interpretations of outcomes in order to use them to make improvements in the classroom (Guskey, 2003). Teachers, in particular, must consider assessments to be critical elements in their instructional strategies and as integral aspect for assisting students in the learning process. The main

advantages of assessments for teachers and students are unbounded whenever teachers' assessment practices become such an essential component of the teaching and learning process and a major factor in their attempts to assist learners' study (Guskey, 2003).

Almost all major attempt to consolidate the findings on classroom assessment is focused on classroom formative assessment. A review of over 250 research revealed that, formative as compared to summative assessments, have a greater influence on students' learning (Black & William, 1998). Terrance Crooks (1988) states that effect sizes for formative assessments are consistently greater than effect sizes for summative assessments. According to Gronlund (2006), a quality educational assessment necessitates a comprehensive understanding of the desired learning outcomes of the teaching, as well as a range of assessment methods that are meaningful to teaching, adequate and appropriate to sample students' achievement, and equitable for everybody.

Teachers are known to be a major element in assessment in the classroom. As a result, they must possess a remarkable understanding about issues pertaining to classroom assessment. Teachers must have a basic knowledge of underlying the subjects they teach. They should also be able to create as well as implement learning intents that are aligned with the contents and intensity of both the standards and curriculum goals, as well as have techniques for conveying the learning goals for learners (Brookhart, 2011). Brookhart (2011), further stated that Teachers should be skilful at analyzing assessment methods and offering effective appropriate feedback on student work. They must understand the goals and purposes of various forms of

assessment and be able to use them. Teachers must also be able to create grading systems to determine students' academic achievement in order to make educational judgments. They should be capable of providing external tests, interpreting the outcomes for decision-making, communicate assessment data to learners in order to encourage learners study and comprehend the ethical and legal issues surrounding the practices of assessment in the classroom.

Forms of Classroom Assessment

Assessment is used in different situations and purposes. Assessment is used by organizations to select suitable applicants for jobs and to obtain information for promotions. Naturally, assessment is of two forms namely formative and summative.

Formative assessment

Formative assessment can be defined as a form of assessment that is done continuously throughout the lesson (Asamoah-Gyimah & Anane, 2018). This means that formative assessment occurs before, during and after the instruction. It can therefore, be said that teaching is tied to formative assessment in the classroom. To find out how the lesson is progressing is the main goal of formative assessment (Asamoah-Gyimah & Anane, 2018). This implies that the idea behind formative assessment is to improve students' learning abilities rather than using it to grade their performances. Classroom formative assessments include classroom questions and answers, class exercises, homework, observations, quizzes and class tests.

Airasian (1994) also defined Formative assessments as a type of interactive assessment that is mainly used to shape or change a continuous process. The purpose of formative assessment is to enhance learners'

engagement and motivation in order to produce relatively high outputs. It is really necessary to recognize that there really are two kinds of formative assessment spectators (Hart et al., 2015). Formative assessment concerns teachers and many of the teachers can assess students' comprehension through questioning and watching them review concepts in group discussions. In

formative assessment, data is formally collected which would aid in determining what must occur next during teaching in the classroom and teachers serve as the data users. Again, formative assessment concerns students as they need to know what would move their responses to questions. Marzano, Pickering and Pollock (2001) stated that, it is the primary objective of formative assessment to provide students with real - time updates on what they have learned. It can be presumed that, when learners are provided with prompt feedback, it positively enhances their performances.

According to Palomba and Banta (1999), Formative assessment is normally conducted before the start or throughout a programme to provide prompt information from students in a specific lesson or a specific stage in a programme. Amongst the most widely accepted assessment methods in the classroom is formative assessment which teachers use to enhance the effectiveness of teaching and learning (Palomba & Banta, 1999). Formative assessment, as an integral part of classroom instruction, could contribute towards changes in national curriculum whenever certain modules fail to meet the learning achievements of students (Palomba & Banta, 1999). According to Angelo and Cross (1993), whenever different aspects of a programme are presented, classroom formative assessment may offer essential information about it. This is because it allows programmes to assess if all the course's

learning objectives and goals have been met. According to Bardes and Denton (2001), it can also promote the quality of instruction, the involvement of faculty in the development and implementation of the aims and objectives of a course, as well as the effect of a course on the programme.

Strengths of formative assessment

Formative assessment data from the classroom can make a significant contribution to a rigorous assessment strategy by allowing teachers choose pertinent areas within a programme to measure and monitor the learning outcomes of students (Bardes & Denton, 2001).

According to Nitko (2004), formative assessment provides an excellent picture of students' performance within a given time. This is because formative assessment remains continuous, several other previous performances of the students are available. Analyses of this information give a clear picture about the performance. Based on that there is enough evidence to say a particular student is good or weak.

Another way to encourage students to study constantly throughout the period of instruction is to use formative assessment in the classroom (Asamoah-Gyimah & Anane, 2018). The oral questions and answers, home works, class exercises and observation that are constantly and continuously used in the classroom means that students should always be on alert and this compels students to study and pay attention in the classroom throughout the periods of instruction.

Mussawy (2009) also stated that formative assessment enables the teacher to identify the weakness of individual students. The continual assessment of the students periodically on a particular content, help the teacher

to identify students who after the entire lessons still have weakness in grasping the concept. With this, the teacher can plan remedial and individualized teaching for such students. The students are therefore helped to progress hence improving on their performance.

Weaknesses of formative assessment

According to Mussawy (2009), one of the weaknesses of formative assessment is the increase in the workload on the classroom teacher. Continuous and comprehensive assessments are required to clearly or better understand students' performance. This means that almost every day, the teacher has to give assignments, home works, or class exercise, mark, grade and offer immediate feedback to students so as to know what to do with regard to their performance. This can be challenging especially in Ghanaian schools where the classroom teacher has a large class size to handle.

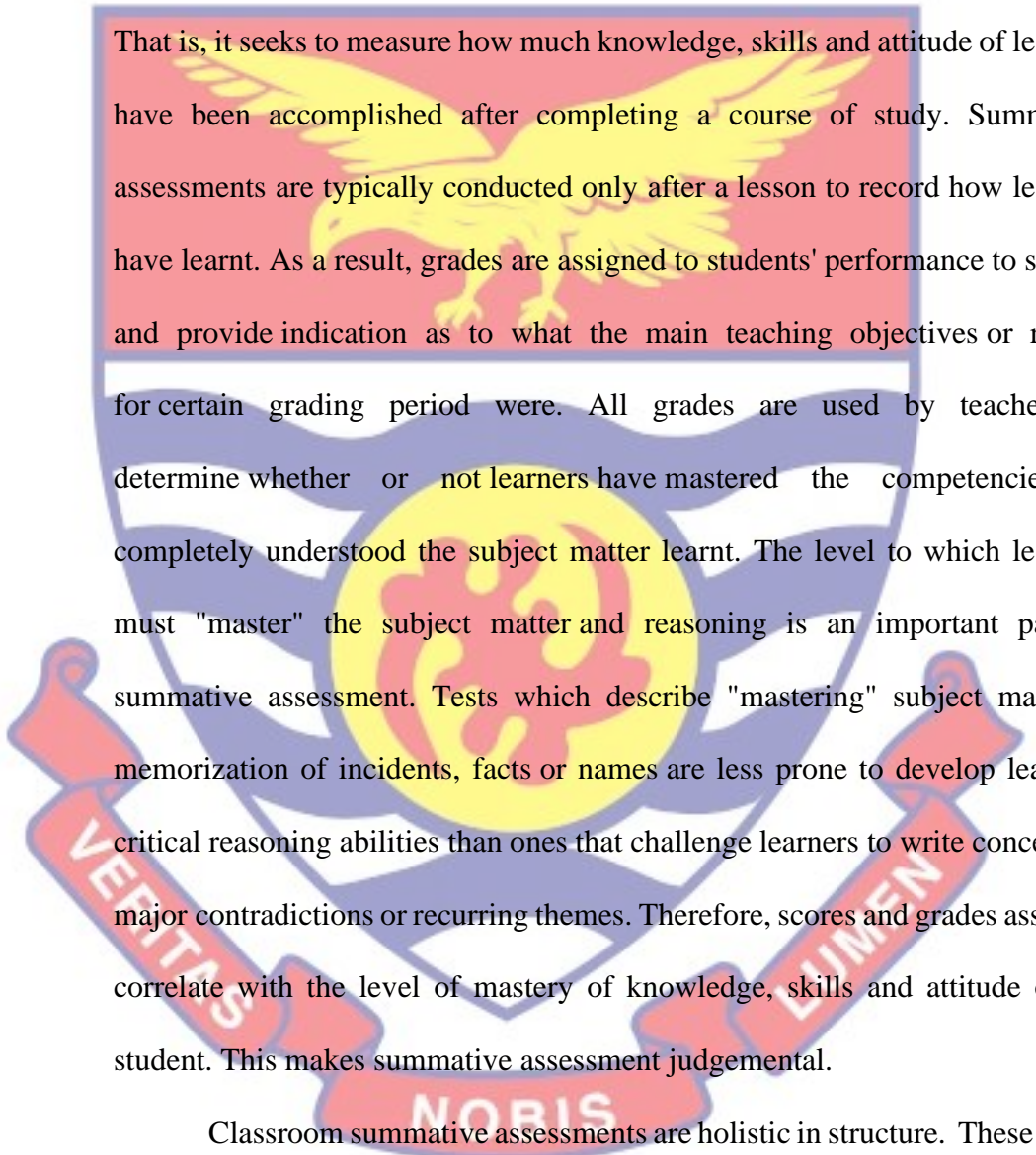
Asamoah-Gyimah and Anane (2018) also stated that effective and efficient formative assessment requires some professional skills which many classroom teachers lack. Effective and efficient assessment requires that the assessor adhere to all assessment principles and practices. Deficiency in adhering to the assessment principles and practices means deficiency in the assessment carried out in the classroom and this implies that any decision made based on the assessment is also deficient in a way.

Another problem with formative assessment is that of record maintenance. Formative assessment requires collection and storage of records to understand the progress of a student performance (Amedahe, 2012). In most schools in Ghana, adequate storage facilities are not available. There are not adequate cabinets and computers in the schools for storing formative assessment

data. This makes handling and retrieval of formative assessment data for use very difficult.

Summative assessment

Summative assessments determine whether learners have accomplished or exceeded learning objectives (Hart et al., 2015).



That is, it seeks to measure how much knowledge, skills and attitude of learners have been accomplished after completing a course of study. Summative assessments are typically conducted only after a lesson to record how learners have learnt. As a result, grades are assigned to students' performance to signify and provide indication as to what the main teaching objectives or results for certain grading period were. All grades are used by teachers to determine whether or not learners have mastered the competencies or completely understood the subject matter learnt. The level to which learners must "master" the subject matter and reasoning is an important part of summative assessment. Tests which describe "mastering" subject matter as memorization of incidents, facts or names are less prone to develop learners' critical reasoning abilities than ones that challenge learners to write concerning major contradictions or recurring themes. Therefore, scores and grades assigned correlate with the level of mastery of knowledge, skills and attitude of the student. This makes summative assessment judgemental.

Classroom summative assessments are holistic in structure. These forms of assessment promote accountability, and can be used to examine learning outcomes after a course is completed. For example, whenever learners are able to sail through any certification examination after completing a course, then that examination needs to be summative assessment because it is dependent on their

cumulative experiences in learning (Angelo & Cross, 1993). The holistic form of knowledge acquisition in any given course is typically reflected in classroom summative assessment through the objectives and goals of that course. (Palomba & Banta, 1999). It is noted that, in any educational programme, conducting summative assessment after completion of a course is very relevant.

This is to determine whether or not learners have acquired and mastered the objectives and goals of the course. Bardes and Denton (2001) articulated that, in order to develop a complete and robust strategy, special emphasis must be paid to the use of different approaches and procedures. Eventually, Summative assessment data is the bedrock for any assessment strategy. This form of data could stand independently. The known summative assessments used in Ghana included General Business Certificate Examination (GBCE), BECE, WASSCE Advanced Business Certificate Examination (ABCE). Also, end-of-semester examinations are example of summative assessment.

Strengths of summative assessment

A major strength of summative assessment as stated by Asamoah-Gyiamah and Anane (2018) is that it measures students on a larger sample of content. Summative assessment attempts to obtain information on learners' overall gains after completion of a programme. Summative assessment covers almost all concepts learned and this gives students the opportunity to at least provide answers to questions as compared to formative assessment that limit itself to only the instructional goals.

According to Brennan (2006), summative assessment has the advantage of providing enough evidence for placing students into advance courses. That is summative assessment enables placement decisions to be made. Summative

assessment provides information on students' overall mastery in the course and thus information obtained through summative assessment is enough to decide whether a student is equipped to take up an advance course or needs a remedial course.

Nitko (2001) stated that summative assessment enables teachers in the classroom to appraise their teaching. Learners' achievement on summative assessment which tends to cover content of the entire course or programme gives information on how well the teaching and learning process has been. If students genuinely perform well on the summative assessment, it is an indication that the teaching was successful else the teacher would have to modify the teaching strategies and methods.

Weaknesses of summative assessment

According to Asamoah-Gyimah and Anane (2018), summative assessment is less directed to providing suggestions for improvement in students' learning. That is summative assessment unlike formative assessment that provide learners with immediate feedback on their performance so that they will understand their errors or weakness in learning, summative assessment only gives a final score or grade to students. Details of students' performance are not provided on strengths and weaknesses in the performance. Also, teachers at times delay in giving learners information on their performance while learners are not offered the chance to discuss their achievements. This is because, after summative assessment the concepts are not revisited. The grades are used to judge students rather than helping them improve performance on those concepts.

Brennan (2006) stated that summative assessments are more associated with examination malpractices than formative assessment. Because, summative assessment tends to be one-shot examination used mostly for critical decisions such certification and selections, students are always poised to passing the examinations. Therefore, all means including frouls ones are used by students.

Because formative assessment is not judgemental but only to improve learning, students are not inclined to cheat in those examinations.

According to Nitko (2001), a principal disadvantage of summative assessment is that, much time is required in developing the assessment instrument. Summative assessment covers a large range of content domain therefore, the test developer has to construct test that will cover a representative sample of content domain and also all levels of cognitive domain. This requires more time to do. A table of specification has to be constructed to ensure this and objectives that are mostly included to ensure content representativeness. Objective tests also come with their challenges as far as time is concerned.

Performance-based assessments

According to Palm (2008), Performance-based assessments are used to determine not just learners' knowledge in a subject matter, but also to ascertain whether learners can have the abilities in transferring this expertise in a "real-world" context. Performance-based assessments (PBA) are often referred to as project-based or authentic assessments. Performance-based assessment challenges learners to integrate the knowledge acquired and apply these abilities to any completely unknown set of conditions that are likely to arise outside the boundaries of a regulated classroom environment by requiring them to develop a final product. Darling-Hammond and Pecheone (2009), stated that

Performance-based assessment tasks involve building and running tests on software application, designing and developing a model, devising, conducting, and reporting on a survey, conducting scientific experiment, writing letters to editors of publications, and planning, investigating, and writing comprehensive reports on a research (Wren, 2009).

According to Wiggins and McTighe (2005), most PBA demand that learners complete an authentic project that simulates a real-life experience and replicates real-life difficulties, independent of the kind of achievement.

Strengths of performance-based assessment

For decades, performance-based assessments have been applied in several nations, since they provide numerous benefits that standardized pencil and paper multiple-choice tests do not have. Authentic assessments are not just for testing. They should enable both teachers and learners to know how to complete any given tasks and also what types of achievement difficulties are genuinely the most significant in a career or role in life. PBA, when combined with a well-designed measurement instrument like a scoring rubric, could clearly show how and why a learner is constantly battling with a given task, rather than what standardized testing might only depict (Wiggins & McTighe, 2005). According to Falk, Ort, and Moirs (2007), performance-based assessment may assist teachers in determining ways in which learners learn best (Shepard, 2009). When PBA are used as formative assessment, it offers real-time feedback to learners as compared to large-scale standardized test. According to Darling-Hammond and Pecheone (2009), PBA enables teachers to make effective improvements when teaching is ongoing, whereas standardized testing can take weeks to produce results. Darling-Hammond

(2009) further stated that, PBA also provides for assessment differentiation, allowing all students, including special education and English language learners, to demonstrate understanding.

Performance-based assessment procedures have been demonstrated in study to have an effect on all other teaching strategies in the classroom, in addition to learners' achievement. Firestone, Mayrowetz and Fairman (1998) posited that, although changing basic teaching paradigms could be problematic, performance-based assessment can modify individual classroom behaviors and practices.

Weaknesses of performance-based assessment

Firestone, Mayrowetz and Fairman (1998) cited the cost-intensive nature of performance-based assessment as one of its weaknesses in classroom assessment. In performance-based assessment where students have to create an artefact, there is an issue of cost. This is because, the acquisition of the materials to be used in the creation would have some cost component.

Another limitation of using performance-based assessment in the classroom is that it takes time and effort to plan and implement for both the teacher and the learners. (Darling-Hammond & Pecheone, 2009). The creation of the product in Performance-based assessment requires enough time to complete and so makes it difficult to be used in a traditional classroom often. Also, the assessment of the product or its process means that the teacher should be able to be anywhere at any time. The teacher should be with each student anytime they are working, which is not feasible.

Also, ratings can be more subjective with the use of performance-based assessment for classroom assessment (Shepard, 2009). Because, observation is

part of the assessment in performance-based assessment beauty is subjective. The whole assessment in performance-based assessment has the risk of being subjective even though there is a checklist for evaluation. The degree to which the product meets standards is quite subjective.

Portfolio assessment

Portfolios are a compilation of learners' assessment tasks that has been accumulated over time and are generally utilized as a summative evaluation process.

The portfolio assessment's most notable feature is that, instead of being a snapshot of a learner's knowledge at a specific moment in time, it emphasizes a learner's effort, growth, as well as success over a period of time.

Portfolios assess a learner's application of knowledge rather than regurgitate information. Portfolio assessments are regarded as both learner-centered and authentic assessments of learning (Barootchi & Keshavarz, 2002). Because they may be efficiently altered across different topics, grades, and administrative contexts, portfolios are one of the most versatile kinds of assessment. (Sweet, 1993). The content included in the portfolio, as well as who determines what to include, varies depending on the teacher and the portfolio's learning goals.

Some portfolios solely include finished products, whereas others include drafts and other process documentation (Sweet, 1993).

Some elements are selected solely by the teacher, while others incorporate feedback from learners, colleagues, officials, and even family members.

Strengths of portfolio

Price, Pierson and Light (2011) stated that, the merits of portfolio as an assessment instrument is its ability to be seamlessly integrated into instructional strategies. The portfolio serves as a collection point for work that has been assigned and performed throughout the year. There are no extra examinations or written tasks required. Because of its potential to concurrently educate and test, the student portfolio is an evaluation that is actually compatible with teaching (Barootchi & Keshavarz, 2002).

Students are involved in the creation of all high-quality portfolios at some stage. Students are challenged to gather, choose, and think about what they wish to include in their portfolio which can be a very informative and powerful experience for them (Sweet, 1993).

Students are frequently required to analyze past projects and assignments and review the merits and flaws of both their procedures and their final outputs in portfolios. This encourages self-reflection and awareness (Sweet, 1993). Portfolios, according to Barootchi and Keshavarz (2002), can assist students in becoming more autonomous learners. Portfolios, when well-integrated, could encourage cooperation between learners and their colleagues, as well as between learners and their teachers. (Tezci & Dikici, 2006).

Weaknesses of portfolio

According to Barootchi and Keshavarz (2002), portfolios are not suitable for classroom assessment for three main reasons.

They are (i) non-standardized, (ii) impractical for large-scale assessment because of administration and scoring challenges, and (iii) inherently biased.

Portfolios are not the greatest alternative for classroom assessment, because many methods provide more dependable and greater evidence of students' learning than portfolios (Barootchi & Keshavarz, 2002).

Lack of standardization

According to Sweet (1993) Standardization can be defined as assessments in which (i) all students take the same and statistically concurrent assessments; (ii) all students take the assessments under the same regulatory environments; (iii) the same evaluation methods, grading, and scoring standards are consistently applied to all the students' work; and (iv) the score allotted to a student most likely reflects the efficiency of that student's work without assistance from others.

This indicates that, in view of these requirements, portfolios do not and cannot meet the standardization standards due to their very structure, portfolios are personalized to each student (Barootchi & Keshavarz, 2002). Portfolio just overlooks the data that genuine learning comparisons can be only conducted when students use the same statistically "equated" criteria.

Not feasible for large scale learning assessment

Portfolios are impractical to use on a large-scale due to their non-standardized character. A single grader will need about an hour to grade a single portfolio because of its length. (Sweet, 1993). Barootchi and Keshavarz (2002) asserted that each portfolio requires at least two independent graders to ensure appropriate score dependability. Furthermore, because the contents of a portfolio may be multi - disciplinary, assessors with diverse fields of knowledge may be required, which could result in even more scoring time and practicality issues.

Barootchi and Keshavarz (2002) further stated that, portfolios must relate to each student's academic discipline of study or blend of disciplines in order to be entirely genuine. As a result, different grader teams (and, more probably, different grading rubrics) are required for students of various disciplines. These and other considerations make it impossible to combine results from students who have distinct and possibly unique blending of subjects.

Bias

A picture, video clip and any other details regarding the student's identity may be included in a portfolio. Those reviewing the portfolio may also be aware all the traits of the learner including his or her ethnicity, race and gender. Because of the absence of anonymity, the results may be skewed. (Tezci & Dikici, 2006).

Self-assessment

Andrade and Valtcheva (2009) stated that, usually, self-assessment is seen as a formative method instead of one that determines a student's final mark. Its primary goal is for pupils to recognize their own qualities and shortcomings and try to improve in order to attain certain goals. Self-assessment occurs when students evaluate their own work in order to enhance performance by identifying disparities between present and intended performance (Etsey & Gyamfi, 2017). In this sense, self-assessment complements standards-based education by providing explicit goals and criteria against which students and teachers can assess their progress.

Self-assessment is used to assist students develop self-control, ponder over their accomplishments, and influence modifications and adjustments to a

project or paper (Andrade & Valtcheva, 2009). According to Ross (2006), four conditions must be met for self-assessment to really be effective. These include (1) self-assessment criteria that are agreed upon by teachers and students, (2) instruction on how to apply the criteria, (3) feedback on self-assessments, and (4) teachers assisting students in developing an action plan based on assessment

data. Achievement, self-perception, behaviour, motivation and communication can all improve through self-assessment (Andrade & Valtcheva, 2009; Etsey & Gyamfi, 2017; Klenowski, 1995). According to McDonald and Boud (2003), high school students who got self-assessment training not only seemed to be better prepared for their external assessments, but also outscored their colleagues who did not.

In their reviewed literature, Andrade and Valtcheva (2009) highlight a number of researches that established a link between the use of learner autonomy, self-assessments, in-depth knowledge about skills of communication, the quality of writing and engagement level. As a formative assessment instrument, self-assessment has the advantage of allowing every student to receive feedback on their tasks. (Andrade & Valtcheva, 2009).

Strengths of self- assessment

One major strength in the use of self-assessment in classroom assessment is that it encourages student involvement and responsibility as posited by Andrade and Valtcheva (2009). The fact that the students are assessing themselves give them a sense of responsibility to their own learning and causes the students to be involved in the whole process of classroom teaching and learning of which the assessment is part.

According to Etsey and Gyamfi (2017), Students are encouraged to

reflect on their role and contribution to the group work process through self-assessment. Etsey and Gyamfi (2017) stated that a key feature of self-assessment is metacognition where students reflect on their mental processes. Students reflect on what they intend to do with the areas of the lessons in which they have a challenge.

Another positive side of the fact that self-assessment centers on the development of students' judgment abilities makes it a good complement for classroom assessment (Ross, 2006). Etsey and Gyamfi (2017) in line with Ross (2006) stated that for a successful self-assessment student should be taught and trained with the skills of judgement. This means that with self-assessment, the skills of making fair judgement is developed in the students.

Weaknesses of self-assessment

According to Klenowski (1995) One of the biggest drawbacks of using self-assessment in classroom assessment is that it may increase teacher burden by requiring students to be briefed on the process and ongoing instruction on how to perform self-evaluation. The classroom teacher in addition to his/her routine has to train students on self-assessment. After students' self-assessment, the teacher has to go over the assessment with each student to identify any error in the assessment as a measure to improve the validity of the assessment results.

Also, self-evaluation runs the risk of being misunderstood as a way of presenting bloated marks and also being untrustworthy. (Ross, 2006 & Andrade & Valtcheva, 2009). Every student wishes to be perceived as excellent (Klenowski, 1995), therefore placing their fate in their hands means that they might inflate their own grades which would affect the validity of the assessment results.

As stated by Etsey and Gyamfi (2017), for a successful self-assessment student should be taught and trained with the skills of judgement. Therefore, if the skill of self-judgement is faulty, the use of self-assessment would also be faulty. Andrade and Valtcheva (2009) in a study found out that students believe they are ill-equipped to complete the assessment.

Peer assessment

According to Topping (2005), peer assessment, similar to self-assessment, is really a formative assessment approach that involves students in the evaluation of their own learning. Topping (2005) further stated that, peer assessment can take many forms, but it is primarily a process in which students analyze and provide feedback to other students on the quality or value of their work.

Strengths of peer assessment

Peer assessments can be utilized on a wide range of deliverables, including articles, projects, presentations and other skilled behaviours. Peer assessment is viewed as little more than a procedure for grading. It is also viewed as a teaching strategy because participating in the process improves the knowledge and skills of both the assessor and the learners (Li, Liu, & Steckelberg, 2010).

The fundamental purpose of peer assessment is to offer learners with feedback. Because student time is usually sufficient than instructor time, this method may be useful especially in classes with more students per teacher. Although a particular student's feedback may not have been as detailed and comprehensive as a teacher's, it was suggested by the research that peer assessment can help students learn more effectively. (Topping, 2005).

Weaknesses of peer assessment

The procedure has some risk in terms of grade reliability, since peer pressure to assign higher ratings or friendships may affect the assessment. However, this risk can be mitigated if students are able to submit their assessments independently of the group.

Li, Liu and Steckelberg (2010) said, when it comes to peer assessment, students may have the propensity to give everybody the same score. In order to remain neutral, a student assessing the performance of colleague may award the same or similar marks to all of them to avoid any attack even though a guide has been provided. Therefore, the error of leniency score is likely to set in.

As stated by Etsey and Gyamfi (2017) that for a successful peer assessment, students should be taught and trained with the skills of judgement. Therefore, if students lack the skills of peer assessment, the use of peer assessment will be deficient. Andrade and Valtcheva (2009) in a study found out that Students believe they are ill-equipped to complete the assessment.

Empirical Review

Assessment knowledge of teachers

According to Calderhead (1996), the effectiveness of classroom assessment is dependent on teachers' attitudes, competence, knowledge, and practices due to the constant interaction between learners and teachers. Teachers must construct classroom assessments that follow best practices suggested by educational assessment professionals. Research results from classroom assessments practices on the other hand, have repeatedly raised doubts about the adequacy of educators' assessment procedures (McMillan & Lawson, 2001;

Zhang & Burry-Stock, 2003). These investigations revealed various inconsistencies between instructors' actions and educational assessment specialists' suggestions on topics of classroom assessment. Teachers' knowledge and attitudes concerning educational assessment were blamed for the disparity between their practices and professional recommendations (Siegel & Wissehr, 2011).

McMillan and Lawson (2001) investigated Teachers' knowledge, attitudes, behaviours and competence towards assessment in educational. One hundred and sixty-five in-service teachers were randomly selected, from the Sultanate of Oman's Muscat educational governorate, to teach different subjects from grade 5 to 10. With this study, a descriptive survey research design was adopted. The findings were that, despite having positive attitudes toward and believing themselves to be knowledgeable in educational assessment, educators had a limited understanding of the subject. In the classroom, teachers employed a series of assessments to award grades and motivate learners to study, with certain differences across grade level, subjects and gender. Some of the differences in instructors' educational assessment practices could be attributed to their teaching load and experience.

Plake and Impara (1992) used a 35-item "Teacher Assessment Knowledge Questionnaire" (TALQ) based on the "Standards for Teacher Competence in Educational Assessment" to measure assessment knowledge of 555 in-service teachers in the United States. Participants were chosen using a simple random sample technique (AFT, NCME, & NEA, 1990). A descriptive design and questionnaire were used for the study. The mean score of 23 out of 35 items rightly suggested that the teachers were not well ready to assess

learners learning. As a matter of fact, teachers' assessment expertise must be recognized and investigated further. In his review of knowledge in assessment, Popham (2006), emphasized the importance of ongoing in-service assessment sessions that is connected with realities of classroom assessment. Popham's position is not far from reality as continuous in-service assessment training is necessary to keep teachers abreast with current trends of assessment and to keep up with the skills and knowledge needed in the course of their schooling.

A study of 69 teacher trainees' knowledge in assessment was conducted by Volante and Fazio (2007). Participants were selected randomly and questionnaire administered to them. It was discovered that the candidates' self-described levels of knowledge in assessment remained relatively low over the four years of the teacher education program, confirming Popham's (2006) assertion that in-service assessment training is required to ensure that teachers have an acceptable level of assessment knowledge. Similarly, Wolfe, Viger, Jarvinen, and Linkman (2007) advocated that in-service teachers' self-perceived assessment competence be a critical component of their professional growth.

DeLuca and Klinger (2010) used a simple random sampling method to sample 288 teacher candidates enrolled in a teacher education programme in Canada. A quasi-experimental research methodology was used to present a questionnaire each to them. It was discovered that prospective teachers who have been chosen to enroll in an assessment course in education exhibited better confidence levels in overall skills and knowledge in assessment in education than those who did not receive formal training in assessment. Similarly, in Alkharusi, Kazem, and Al-Musawai (2011)'s research of

assessment skills, attitudes and knowledge in Oman, simple random method was used to select 217 in-service teachers. The study used a quasi-experimental design with a questionnaire as the research instrument. Teachers who had taken a pre-service course in educational assessment had a greater level of educational assessment knowledge on average than teachers who had not taken a pre-service assessment course.

In Ghana, Amoako, Asamoah, and Bortey (2019) investigated the knowledge of Senior High School (SHS) teachers about formative assessment. The study used a descriptive cross-sectional survey as its design. The census method was utilized to select 148 Mathematics instructors from all thirteen public secondary schools in Cape Coast metropolis. For data collection, a questionnaire containing closed-ended items was constructed. The majority of SHS mathematics teachers in the Cape Coast Metropolis were found to be unfamiliar with formative assessment practices. Furthermore, the data showed a significant correlation ($r = 0.71$) between formative assessment knowledge and practice among Mathematics teachers in SHS.

Moe (2012) conducted a study to investigate what one large-scale teacher education programme at a large public institution accomplished to help primary pre-service teachers improve their assessment skills. The study focused on pre-service teachers' perceptions of their exposure to and mastery of assessment subjects. The primary principals' perceptions of the significance of same assessment tasks were matched to the anticipated exposure levels and understanding. Surveys were distributed to teachers under training, instructors, and principals in such a manner in which the data could be compared. The pre-service teachers' reported exposure levels were lower than the importance levels

placed on the respective subject areas by the principals, according to the survey results. Pre-service teachers, on the other hand, indicated greater knowledge on important assessment issues than principals expected starting teachers should have on the same assessment topics.

In the study of Etsey and Abu (2013) to determine colleges of education tutors' capacity in general test and administration in northern Ghana, 288 tutors from six colleges of education were chosen for the research work. They made use of a cross-sectional descriptive survey with questionnaire as the main research instrument. It was found out that the college tutors showed low capacity in general on test construction and administration.

It is believed that lack of knowledge or insufficient knowledge regarding classroom assessment pose a major challenge in assessment in the daily academic activities of pre-service teachers. In a study conducted in Turkey with 90 teachers by Metin (2013) using simple random sampling technique, teachers were found to have insufficient understanding of how to construct rubrics and were unable to locate rubrics related to assigned content areas. Teachers did not develop the performance task personally, according to the study, but instead used previously established performance tasks.

Classroom Assessment Practice of Teachers

According to Leinhardt (1983), the ability of teachers to effectively determine learners' success is influenced by their professional, personal and educational experiences. These distinctions could be linked to differences in teaching experience or curriculum area or pedagogical professional development (Rodriguez, 2004).

Vingsle (2014) conducted a study to determine activities and define the skills and expertise that a Mathematics teacher employs in her whole-class to practice formative assessment. The investigation was a case study of a Year 5 Mathematics teacher's formative assessment practices. The data was analyzed by determining i) formative assessment practice, ii) teacher activities within formative assessment practice, and iii) teacher skills and expertise used in the activities. The study's key finding was that formative assessment is a sophisticated, intensive, and tough activity for teachers in a variety of ways. For instance, the teacher employed skills and knowledge to elicit, interpret, and use the solicited data to improve teaching to best meet learners' needs during short-term minute-by-minute formative assessment practice. The teacher also assisted pupils in participating in basic learning tasks and taking ownership of their studies. The instructor also dealt with new Mathematics, unanticipated events, and made decisions on teaching and learning settings in a short time throughout the minute-by-minute formative assessment practice.

Susuwele-Banda (2005) researched into the perceptions of teachers about assessment of Mathematics in the classroom as well as their present practices of classroom assessment. The goal of the study was to determine how far the various classroom assessment methods and tools are used by instructors to understand and support both the teaching and learning process. A questionnaire was employed as the major source of data collection to determine teachers' perceptions of assessment of Mathematics in the classroom, as well as a lesson observation protocol and pre and post-lesson observation interview protocols. The information gathered through observations and interviews was used to determine the pattern of the relationships between

teachers' perceptions of classroom assessment and their practices of classroom assessment. The information gathered from observations and interviews was triangulated using document analysis. Document analysis was also employed to gather first hand data on the forms of written feedback students receive and the types of tasks they participate in. Three male and female teachers were selected from two Malawian primary schools. According to the findings, teachers perceived classroom assessment as examinations that they administer to their learners at regular basis. What teachers talked concerning their instruction did not represent what they did during class. Teachers' capacity to employ multiple methods and instruments to assess their students while teaching was limited because they saw classroom assessment as a form of testing. Teachers' perspectives about classroom assessment have an impact on how they assess their learners. Assessment was regarded as testing by five out of the six teachers selected. The practices of classroom assessment were not firmly incorporated in their teachings. Teacher education programmes and experience did not appear to have a significant impact on teachers' perceptions of classroom assessment. Teachers' academic qualifications, on the other hand, appeared to have an impact on their adaptability to accept new ideas.

In a study conducted by Koloï-Keaikitse (2012), the Classroom Assessment Practices and Skills (CAPS) questionnaires was given to a group of 691 teachers in secondary and elementary schools in Botswana in Southern Africa, to find out what they regarded classroom assessment and which classroom assessment practices they mostly used. The study reviewed the disparities between teachers' perceptions of their skills and their practices of classroom assessment. Exploratory factor analysis yielded four factors for

"Thoughts about Assessment" and six factors for skill and practices of classroom assessment from the "Thoughts about Assessment" section. According to the findings, Primary teachers, especially the ones with nothing more than a certificate, required additional training skills in the application of assessment, statistical applications, and criterion referenced testing. Teachers with more experience agreed with mastery and performance orientations, and more expertise and usage of desired classroom assessment practices they perceived. Educational level, teaching level, subject taught, assessment training and years of teaching experiences were all related to the factors in the investigation. The findings revealed that integrating more assessment courses in training teachers and organising assessment in-service as well as workshops will enhance their perceptions, skills, and implementation of acceptable classroom assessment practices.

Relationship between teachers' knowledge and practice of classroom assessment

In a study, Amoako, Asamoah and Bortey (2019) applied descriptive cross-sectional approach to examine the knowledge of formative assessment practices among Senior High School Mathematics teachers in Ghana. One hundred and forty-eight Mathematics teachers were selected in all thirteen public SHS in the Cape Coast metropolis through the use of the census approach. A close-ended questionnaire was used to collect the data for the study. It was found out that most of the SHS Mathematics teachers in the Cape Coast metropolis had low knowledge in formative assessment practices. It was again revealed that, there was a positive relationship between SHS Mathematics teachers' knowledge of formative assessment and its practices.

Another study on relationship between assessment knowledge and practice was by Calveric (2010). The study was a quantitative study that used a verified online survey to investigate how 79 elementary teachers, chosen at random, define their assessment beliefs and how these ideas determine what assessment procedures are prioritized in the classroom. Despite instructors' minimal exposure to training in assessment, the findings indicate that four unique assessment beliefs prevail in primary schools. Assessment for school accountability, student certification, teaching and learning enhancement, and assessment as irrelevant are the four types of assessments. With exception of the irrelevance belief, there were significant correlations between all beliefs and the worth from certain evaluation procedures. There were no significant links found between the irrelevant belief and the value of assessment techniques. Several adverse relationships, on the other hand, were identified.

Gender and classroom assessment practices

Teachers' self-perceived assessment skills as a function of gender, subject area, grade level, experience in teaching, and in-service assessment training were investigated by Alkharusi (2011). A 25-item Self-Perceived Assessment Skills Scale was designed and used in the study, which included 213 Omani teachers from Muscat government schools. With respect to teachers' gender, the results revealed statistically significant differences on self-perceived assessment skills. This means that from the results there is a significant difference in teachers' perception to assessment due to gender. The difference in perception could lead to difference in assessment practices. Female teachers were shown to have a greater level of self-perceived assessment than male teachers.

Ndalichako (2004) in a study conducted using a descriptive design to examine assessment practices by primary school teachers in Tanzania. The 234 teachers who were chosen at random were given questionnaires to respond. According to the findings, most primary school teachers in Tanzania prefer to evaluate students' learning through examinations and tests. Also, there was no significant difference in assessment practices between male and female teachers.

Challenges faced by teachers in classroom assessment practices and how to manage the challenges

Ogan-Bekiroglu (2009), used a parallel mixed-methodology approach to investigate the attitudes toward and competency in educational assessment of 46 Turkish teachers who had completed an educational assessment course. It was revealed that, teachers had some challenges with their assessment practices, despite having constructivist viewpoint and a great competence about educational assessment. The difficulties listed included class size and parental support. These challenges have the potential of making the classroom difficult.

In a study, Sethusha (2012) examine the difficulties teachers face in practicing classroom assessment, as well as how these difficulties affect effective teaching and learning effectively. The research followed a qualitative and instrumental case study approach. The inquiry relied on semi-structured interviews, observations, and document analyses. Interviews and observations were conducted with teachers from four separate schools in the North West Province, UK. The information gathered through interviews and observations was used to determine the difficulties teachers have in practicing their classroom assessment. The documents used by teachers to

conduct assessments were also analysed. The data gleaned from interviews and observations was triangulated using document analysis. Content analysis was used to examine textual data. The teachers' accounts differed depending on their background and experience in teaching, as well as the outer world of their respective school settings. Policy interpretation, overcrowding, support, parental participation, internal and external moderation mechanisms, assessment planning, execution, and communication, as well as an insufficient resources, were all major issues identified in the study. Teachers depended on cluster meetings, their colleagues, and, most importantly, their own personal experiences to solve these issues.

How to improve classroom assessment

Onyefulu (2018) applied an analytic survey research design to ascertain if there were differences in the perceptions of primary and secondary school teachers' classroom assessment practices one of the regions in Jamaica. 225 teachers were selected through the use of stratified random sampling method. 64 primary and 93 secondary teachers totalling 157 teachers participated in the study. A web-based questionnaire with reliability coefficient of 0.749 was used to collect the data. It was found out that portfolio, closed-book test, short answer, restricted essay, and multiple-choice were popularly used by the teachers. The results also indicated that there were significant differences among the teachers on the following arranging test items according to types and writing specific instructions, informing students about the areas that will be assessed, administration of assessments, grading assessment, explaining how scores were derived, giving students the opportunity to appeal their grades, and using the results of the statistical analyses to improve assessment practices. The

study also made recommendations on how to improve teachers' assessment practices based on the findings.

Historical development of classroom assessment

Test has become the most popular tool of measurement in recent times.

The different forms or tools for collecting information on an individual include observation, aptitude test, classroom test and interviews (Nitko, 2001). A test is used for classification, certification, placement, selection, motivation and others (Asamoah-Gyimah, & Amedahe, 2003). Due to its usefulness, it is used in almost every field; sports, education, health, churches, entertainment.

According to Bois (as cited in Allen & Yen, 1979), the increase in the use of test in modern times could be attributed to the three major areas of development: civil-servant examination, school examination and the study of individual differences. These set the journey for the use of test in modern times.

Bois attributed the genesis of modern test to civil-service examinations. According to him, testing started in China when an Emperor decided to assess the competency level of his officials (civil servants) some 3000 years ago.

Through this test, government positions were given to people who excelled in the examination. The goal of such tests was meant to put qualified people at the appropriate place to work as against the biases of political judgement in filling government positions and areas. The test covered areas like music, and civil law. This test became popular due to its effectiveness in selecting people for government work and was implemented in the United States of America and Europe. As a result, the test system began to spread to many other places around the world.

During the 12th century, the state administration test was highly developed and introduced to schools in Europe. The school examination started in the form of oral test at the time when papyrus which was then the writing material was limited in supply. By the 16th century, the Jesuit schools were using pen and paper tests to evaluate and place their students as in modern times (Allen & Yen, 1979).

The other development that has contributed to the use of tests in modern times is the study of individual differences by Sir Francis Galton (1822 - 1911). He set up his famous Anthropometric Laboratory containing instruments to measure various sensory and motor skills (Allen & Yen, 1979) and that was the beginning of intelligent tests and other tests that assess individual performances. He intended to study how each individual acquires and uses the motor skills and the use of the senses. As a result of the success of the test in 1844, it became the basis for other people to develop other tests and techniques to measure individual characteristics like the Intelligent Quotient by a German William Stern (1871 - 1938) and Karl Pearson, the founder of Statistics (1857 - 1936) developed his Pearson – product correlation coefficient and chi-square goodness –of- fit tests.

Many of the early tests at the beginning were designed mainly for one person at a time until after World War I when a mass test, as it exists today, was conducted in the United States (Allen & Yen, 1979). Due to the usefulness of the tests after its inception, many psychologists dived into the study of tests in order to remove every bottleneck associated with it and to construct tests that best assess the intended characteristics. This resulted in the postulation of several theories and perspectives on tests. For example, two Frenchmen, Alfred

Binet and Theophine Simon (1905 - 1908), moved the study of tests from academic to enterprises. Their study introduced norms in testing and changed the approach to test construction from the armchair logic to a more valid approach known today. Also, in the United States, James McKeen Cattell was the first to coin the term mental testing in 1890 and in 1904. E. L. Thorndike published the first book on test theory which expanded the scope of testing as opposed to only the psychomotor or perceptual tests upheld before. In Great Britain, Charles Spearman postulated a statistical tool on tests which is known and used today as the Spearman's correlation coefficient. It is used to estimate relationships and reliability and therefore helps to construct valid tests and analysis (Crocker & Algina, 2008).

In Ghana, it is not clear when exactly educational assessment emerged but it could be traced to the establishment of the first Castle Schools. According to Antwi, Dela, Mensah and Awuddy (2007), the first castle school was established in 1529 by the Portuguese. Much is not known about the assessment form in Portugal then but it is believed that that form of assessment was what was used at the castle schools in Ghana. It is also believed that assessment at the castle school saw changes from time to time as administration of the castles changed from Portuguese to Dutch and final to the British because they all had a different administration and educational policies.

Assessment at the castle schools under British rule was not different from what existed in England then. With the knowledge of tests and its usage, teachers at the Castle schools employed all the test tools they are familiar within the Castle Schools. Assessment in the castle schools placed emphasis on reading, writing and arithmetic (Antwi, Dela, Mensah & Awuddy, 2007).

During that time assessment was purely internal where students were only assessed by their teachers. This internal assessment continued even at the time of Middle School Leaving Certificate (MSLC). In 1951, General Certificate of Education Examination for secondary schools was introduced in England and hence Ghana, its colony. Ministry of Education issued Certificates for middle

schools internally. England superintended over that assessments until the West African Examinations Council was established in 1952 to take over the administration of assessment of both the middle school and secondary school students in the British colonies. Certificates were issued based on external examinations. Ashie (2009) stated that between 1976 and 1988 there were three external examinations which were the elementary level six/seventh grade Common Entrance examination, General Certificate of Education (GCE) Ordinary Level examination and General Certificate of Education (GCE) Advanced Level examination which led to the university. In the present Ghana educational structure, the first external assessment is the Basic Education Certificate examination (B. E. C. E) then West African Senior Secondary Certificate examination (WASSCE). These external examinations are one shot.

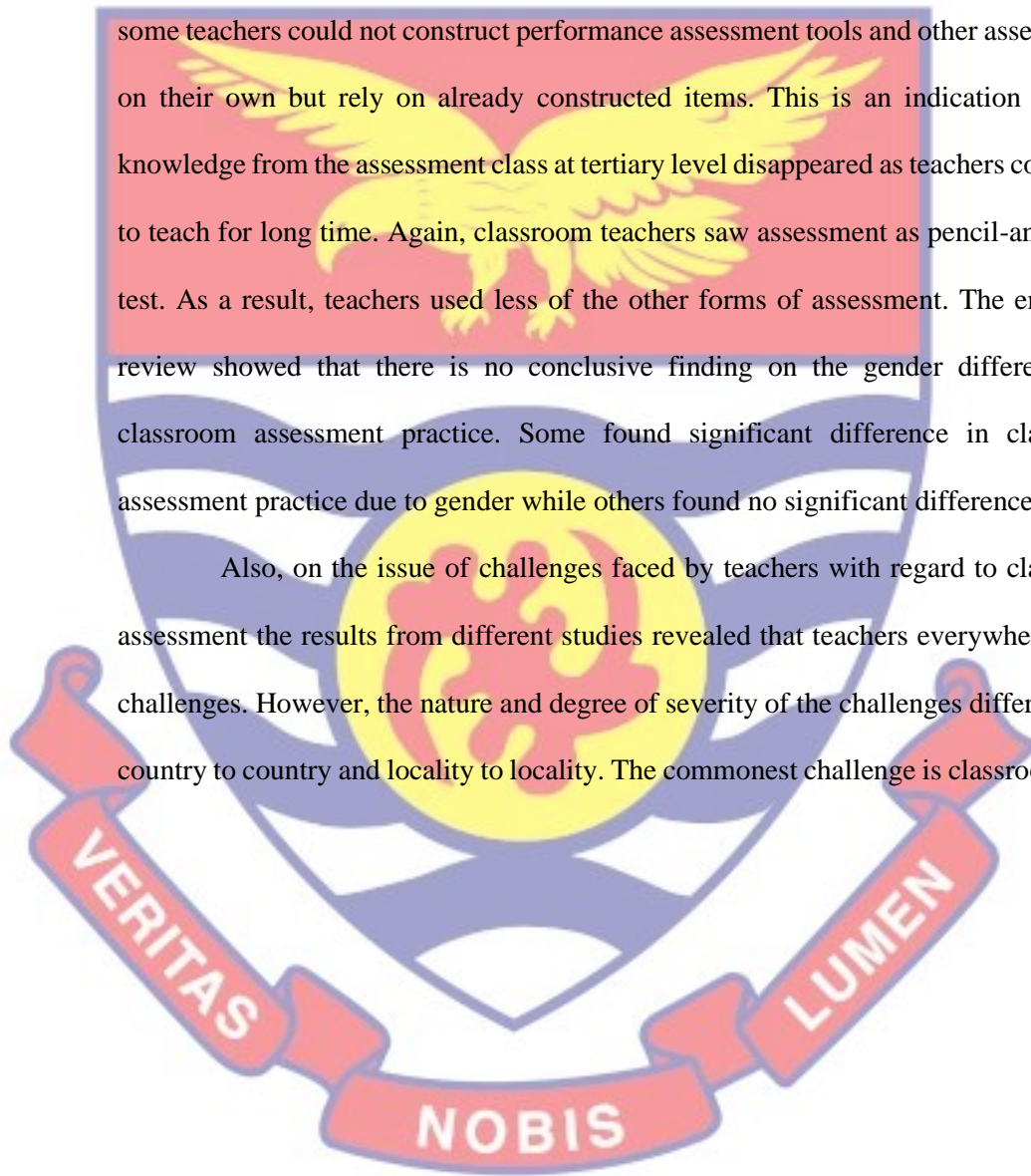
However, Ghana has advanced in its testing system over time. For example, internal assessment became known as the continuous assessment and formed 30% of the students' score of the final examination. For uniformity and standardization of the continuous assessment, it was replaced with School-Based Assessment in September 2008 (Etsey, 2012). Now district-mandated tests have taken over the end-of-term examinations. This is another way to strengthen uniformity and standardization even in the internal assessment which

forms 30% of the final score of end-of-program examinations conducted by WAEC.

Summary

Empirical review brought to bare that; classroom teachers exhibited some degree of knowledge in classroom assessment. The knowledge is not adequate since some teachers could not construct performance assessment tools and other assessments on their own but rely on already constructed items. This is an indication that the knowledge from the assessment class at tertiary level disappeared as teachers continued to teach for long time. Again, classroom teachers saw assessment as pencil-and-paper test. As a result, teachers used less of the other forms of assessment. The empirical review showed that there is no conclusive finding on the gender differences in classroom assessment practice. Some found significant difference in classroom assessment practice due to gender while others found no significant difference.

Also, on the issue of challenges faced by teachers with regard to classroom assessment the results from different studies revealed that teachers everywhere faced challenges. However, the nature and degree of severity of the challenges differed from country to country and locality to locality. The commonest challenge is classroom size.



CHAPTER THREE

RESEARCH METHODS

Introduction

The study's primary purpose was to research into teachers' classroom assessment knowledge and practices. The methodology used to conduct the study is discussed in this chapter. The chapter's methods and approaches were divided into sub-sections. The research design, population, sample and sampling technique, research instruments, data collection procedure, and data analyses are all covered in this chapter.

Research Design

In any study, selecting a suitable research approach is critical (Creswell, 2009; Punch & Oancea, 2009). A mixed method approach, a quantitative approach, or a qualitative approach can all be used in research (Creswell, 2003; Creswell, 2009; Punch & Oancea, 2009). The current research employed a quantitative approach. A quantitative approach, according to Creswell (2009), is "a means of testing objective assertions by examining the relationship among variables." " These variables can then be monitored using devices, allowing numbered data to be analyzed using statistical procedures" (p.4). To materialise this, descriptive survey was used for the study. This aided the researcher to collect data on teachers' knowledge level and classroom assessment challenges as well as how teachers practice classroom assessment. A descriptive survey is one that collects data to address the research questions or test hypotheses. The descriptive survey was used since it depicts issues as they are on the ground, with little or no personal bias. In other words, a descriptive study presents findings as they are. Attitudes, opinions, demographic information, conditions,

and processes are all assessed in typical descriptive research. The descriptive survey merely focuses on the current situation. It makes an attempt to quantify what exists in terms of variables or conditions in a situation (Mitchell & Jolley, 2004).

The descriptive survey design was employed because of the following merits. The design aims at explaining people's perceptions and behaviour using data collected at a specific time to present a more accurate and meaningful picture of occurrences (Frankel & Wallen, 2000). This enables for in-depth follow-up questions and the clarification of any issues that are questionable. Furthermore, descriptive survey design has the ability to yield a significant quantity of data from a large number of respondents (Frankel & Wallen, 2000). It is also thought to be the best method for the study because it is a relatively not expensive way of gathering data about people's attitudes, beliefs, and behaviours. It ensures that the data collected is manageable. Since several subjects can be researched at the same time, a descriptive survey is more cost effective (Mitchell & Jolley, 2004; Frankel & Wallen, 2000). Furthermore, the study's conclusions can be applied to the entire population.

Despite its benefits, the design has drawbacks. One of the limitations related to descriptive design, according to Frankel and Wallen (2000), is that, it is difficult to get respondents to answer questions completely and honestly when employing questionnaires. Notwithstanding this disadvantage, the descriptive survey approach was found to be the most relevant and applicable for this research. It assisted the researcher in gathering precise data on teachers' classroom assessment knowledge and how they practiced it, challenges teachers

faced in classroom assessment and the strategies to manage the challenges for concrete conclusions to be made.

Population

According to Amedahe (2004), the population is the target group for which a researcher is concerned in gathering data and generating conclusions.

It is a group of people who share one or more qualities that the researcher is interested in. A study population, according to Polit and Hungler (2006), represents the total number of cases that match a set of criteria. In this study, the target population consisted of all professional teachers in the Ellembelle District. There were nine hundred and eighty-nine teachers in all the eight educational circuits in the district as at 2020. The accessible population comprises all professional teachers who have taught for at least two years. There are seven hundred and nine-five professional teachers in the accessible population. In all there are eight educational circuits in the district. All the teacher in the accessible population took assessment course during their training.

Sampling Procedures

A sample is a section of the population that has been chosen for surveys and analysis. A sample, according to Sarantakos (2005), allows the researcher to investigate a fewer quantity of units in instead of the entire target population and receive data that is representative of the overall population of interest.

According to Amedahe (2000), sampling is the process of selecting a subset of a population to represent the full population. Taking into account the nature of the study's population, a multistage sampling approach was used to gather the sample for the study. When performing investigations involving a large

population, multistage sampling is a sample strategy mostly used. The population is separated into naturally occurring clusters and sub-clusters, by which the researcher draws a sample at random (Adane, 2013). This was used to choose the study's participants.

In the first stage, the lottery approach was employed. Five (5) circuits from the eight educational circuits in the district were chosen using a simple random sampling method. Then the lottery approach of the simple random sampling technique was again used to choose ten (10) schools from each of the five circuits selected. Schools selected were either primary or junior high. Finally, the purposive sampling technique was employed to select all professional teachers who have practiced classroom assessment for at least two years. In all 220 teachers were selected and questionnaire administer to them. However, 207 teachers responded to the questionnaire which gives an attrition rate of rate of 13%. A purposive sample is a non-representative subset of a broader population that is designed to meet a particular need or goal (Sarantakos, 2000). Adjei and Tagoe (2009) also stated that purposive sample is used in situations where a specific target is to be reached. That is when respondents are expected to meet some characteristics for being in the sample.

Data Collection Instrument

The major data gathering instrument was a questionnaire. The decision to use a questionnaire was based on Osuola's (2001) argument that they are especially useful when the sample size is significant enough to make it economically unviable to monitor or interview each person due to time or financial constraints. Questionnaire was also considered appropriate as a way of ensuring anonymity of respondents and completing the study within a

relatively short period. It also ensured a wider coverage since the researcher was able to approach respondents more easily. Questionnaires are simple to administer, complete, and score (Bowling, 2002; Denscombe, 2003 & Young, 2016). Therefore, they require lesser time from both researcher and the respondents. However, questionnaires are vulnerable to forgery, and all

responders must be literate in the language used in constructing it. (Murphy-Black, 2000 & Young, 2016)

The questionnaire which was self-designed was developed in relation to reviewed literature. There were five sections to the questionnaire viz; A, B, C, D and E. Section A made up of two items consisted of personal data on respondents and section B made up of 26 items addressed the knowledge level of teachers on classroom assessment in the District. Section C (26 items) addressed the practices of teachers on classroom assessment. Section D (22 items) considered the challenges faced by teachers in practicing classroom assessment while section E which is made up of five items looked at how to improve classroom assessment practices. On a four-point Likert scale, these were scored multiple times. For positive statements, the Likert type scale items were assessed on a range of four (4) for Strongly Agree to one (1) for Strongly Disagree. Negative statements were however scaled in the reverse way. According to Asamoah-Gyimah (2002), while measuring the perspectives and perceptions of teachers on an ongoing practice, the Likert type scale is the simplest but equally efficient approach when compared to social-distance scales and that is why it was chosen.

Pilot-testing of Instrument

The instrument was pilot-tested to ensure that the data gathering instrument and procedures were appropriate. The research instrument was pre-tested for all teachers (taught for more than two years) in one of the basic schools (Primary and JHS) of the circuits in the Ellembelle District which were not selected for the study by a simple random. The selected circuit is comparable to characteristics of the accessible population. For the pre-testing, ten teachers were used. The teachers were given the questionnaire once the study's goal was explained to them. The teachers were asked to ask for clarification and report any ambiguous statements on the questionnaire. The goal of pre-testing was to find any flaws in the instrument, double-check the clarity of the items, and solicit feedback from respondents to help with the improvement and modification of the instrument. Furthermore, in order to confirm content validity, the instruments were shown to my supervisors for their expert advice.

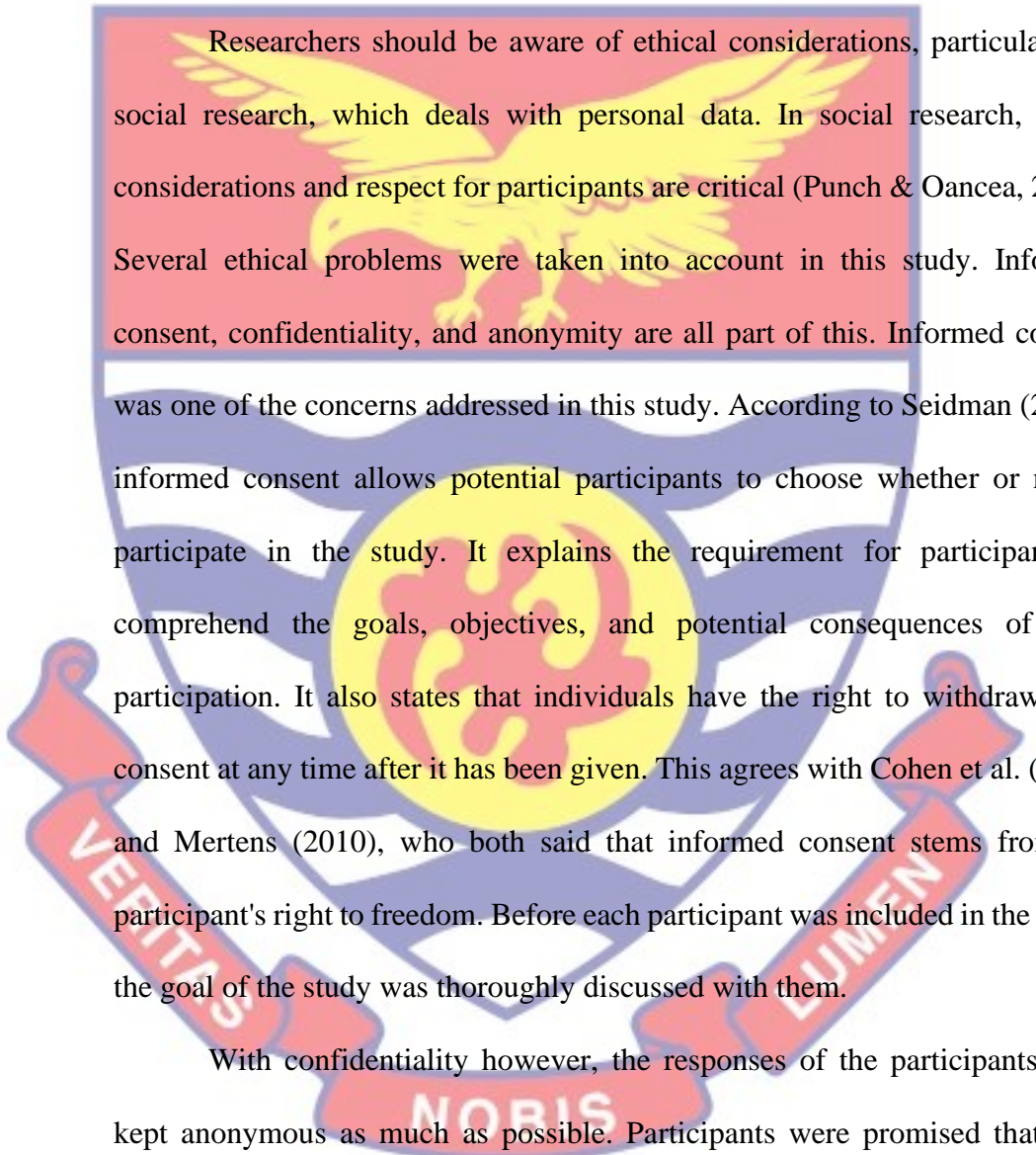
Questions 2 and 7 which were found to be ambiguous and questions 16 and 19 were reconstructed because they were found not to be appropriate to the local conditions. Other items that elicited similar responses were either recrafted or eliminated. Before the final administration of the questionnaire, all necessary modifications were made.

Validity and Reliability of the Instrument

Stangor (2004) opined that construct related evidence of validity is one of the most powerful techniques available to the researcher through which data gathering instruments like questionnaires can be validated. Thus, the construct validity measure was adopted. Construct related evidence of validity is related to how well the result from the instrument reflects the traits or attributes being

measured (Nitko, 1996). With this, the instrument was given to the supervisor for expert judgement. The reliability of the tried-out instrument was determined using Cronbach's Coefficient Alpha as a measure of internal consistency. The reliability coefficient of the questionnaire was 0.79.

Ethical Consideration



Researchers should be aware of ethical considerations, particularly in social research, which deals with personal data. In social research, moral considerations and respect for participants are critical (Punch & Oancea, 2009). Several ethical problems were taken into account in this study. Informed consent, confidentiality, and anonymity are all part of this. Informed consent was one of the concerns addressed in this study. According to Seidman (2006), informed consent allows potential participants to choose whether or not to participate in the study. It explains the requirement for participants to comprehend the goals, objectives, and potential consequences of their participation. It also states that individuals have the right to withdraw their consent at any time after it has been given. This agrees with Cohen et al. (2000) and Mertens (2010), who both said that informed consent stems from the participant's right to freedom. Before each participant was included in the study, the goal of the study was thoroughly discussed with them.

With confidentiality however, the responses of the participants were kept anonymous as much as possible. Participants were promised that their responses would be kept confidential, that no one they knew would have access to the information they supplied, and that no one's name would be recorded in the study.

In the current study, the anonymity of study respondents was also taken into account. According to Oliver (2010), anonymity is a critical issue in research ethics since it allows participants to keep their identities hidden. For the purposes of this study, fictional names were employed for identification that could not be linked back to the participants. Codes were also used where appropriate to ensure that information was kept anonymous and that no harm was done. Prior visits to selected schools were performed before data collecting began to avoid invading participants' privacy needlessly. In this study, no names or personally identifying information from respondents were used to ensure the ethical norm of anonymity. This is to avoid respondents from being victimized if some responses are deemed undesirable by other stakeholders.

Respondents were made aware that they had the right to discontinue the process should they feel so and not to respond to certain questions that infringed upon their privacy. Respondents were also informed that the information they provided would be treated confidentially and would not be shared with anyone or groups who were not supposed to have access to it. Some demographic characteristics which identified them personally were also not disclosed with information they provided ensuring anonymity of data provided.

Data Collection Procedures

The Department of Education and Psychology issued an introductory letter (see Appendix E) to the researcher which stated the study's goal, the need for individual involvement, as well as the anonymity and confidentiality of respondents' responses to the respondents. Following the requisite communication with the head teachers of the selected schools, permission to administer the instrument was sought from them. The data was collected solely

by the researcher. At each school, one teacher was made in charge for the collection of the completed questionnaire. After obtaining informed consent from respondents, the researcher visited the chosen school in the first stage of gathering data. The questionnaires were administered to the teachers to fill at their convenient time because the teachers were occupied with classroom duties.

The contact of the 'agent' (a person put in charge to collect the questionnaire within the school) was taken. The informed consent and the distribution of the questionnaire took two weeks because the researcher would also attend to official duties. The second phase was the collection of the questionnaire from the 'agents' who took one week. The approach enabled the researcher to retrieve 207 out of the 220 distributed questionnaires representing 94.1%. In all, the data collection took three weeks.

Data Processing and Analysis

The quantitative analysis of the research data was performed. The field data was gathered, sorted through, then adjusted to address questions that were partially or completely unanswered. The questionnaires were serially numbered to facilitate easy identification and statistical presentation and analysis. This precaution must be followed in order to detect small causes of mistakes quickly when they emerge during data tabulation. The responses to the questionnaire's numerous items were also added, collated, and statistically analyzed.

The data was entered into the computer using the Statistical Package for the Social Sciences (SPSS Version 23.0) software after editing and coding. The data was cleaned before the needed data transformation by performing consistency checks on each variable. After the questionnaire was verified, errors are corrected, and the database was created. The data was analyzed and

quantified. Frequency and percentages, standard deviations, and averages were used to analyse the demographic information from the questionnaire. The tables were created based on the gender and experience of the teachers.

Research questions one, two, three and four were analysed using means and standard deviations with the test value of 2.5. The total value of the scale is 10 (4 + 3 + 2 + 1). This gives a mean of 2.5 for each of the responses out of the total of 4. That is the total 10 divided by the 4 responses. The 2.5 is also the middle point for the four –point scale. The difference of the minimum of 1 and 2.5 which gives 1.5 is divided into 2 making 0.75. Therefore, the mean cut-off points for the questionnaire for the variables were: 3.25 – 4.00 = Strongly Agree, 3.24 – 2.50 = Agree, 2.49 – 1.75 = Disagree and 1.74 – 1 = Strongly Disagree.

The second component of the questionnaire used inferential statistics to analyse the research questions and hypotheses set for the study. Below is a presentation on the summary of how the data was analyzed.

Research question one

What is the knowledge level of teachers of Ellembelle District in classroom assessment?

The respondents' responses to items represented knowledge level of teachers of Ellembelle District in classroom assessment. The responses on these items were analysed using means and standard deviations.

Research question two

How do teachers of Ellembelle District practice classroom assessment?

The respondents' responses represented how teachers in Ellembelle District practice classroom assessment. The responses on these items were analysed using means and standard deviations.

Research question three

What Challenges are faced by teachers in practicing classroom assessment?

The respondents' responses represented the challenges teachers in Ellebelle District face in practicing classroom assessment. The responses on these items were analysed using means and standard deviations.

Research question four

How can classroom assessment be improved?

The respondents' responses to research questions represented how classroom assessment can be improved. The responses on these items were analysed using means and standard deviations.

Research hypotheses

All the hypotheses were tested at 0.05 significant level.

Hypothesis 1

H₀: There is no statistically significant relationship between teachers' knowledge and practice of classroom assessment

The Pearson product moment correlation was used to test this hypothesis to determine the relationship between teachers' knowledge and classroom assessment practices. Data was by adding up respondents' response to the items on the section on knowledge on classroom assessment and practice of classroom assessment.

Hypothesis two

H₀: There is no statistically significant difference in teachers practice of classroom assessment on the basis of gender. Independent sample t-test was used to test for the significance difference in teachers' practice of classroom assessment on the basis of gender

Chapter Summary

The goal of the study was to assess teachers' knowledge and practice in classroom assessment. The research methods used were detailed in this chapter. Inferential statistics (Independent t-test) and descriptive statistics viz; means and standard deviations were used to analyze the data.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

The main purpose of the study was to ascertain the knowledge level and practice of teachers on classroom assessment in the Ellembelle District. This chapter deals with the presentation and analysis of the data collected from the respondents (teachers) that participated in the study. The data were analyzed and discussed according to the research questions. The respondents of the study were professional teachers who have taught for at least two consecutive years. Frequency distributions, percentages, standard deviations, and means were used to analyze the data. The demographic features of respondents were detailed in the first section of this chapter. The research findings are reported in four key areas in the second segment, according to the research questions posed on knowledge level, practice, and challenges that Ellembelle District teachers faced in classroom assessment.

Research questions

1. What is the knowledge level of teachers of Ellembelle District in classroom assessment?
2. How do teachers of Ellembelle District practice classroom assessment?
3. What are the challenges faced by teachers in practicing classroom assessment in the Ellembelle District?
4. How can classroom assessment be improved?

Analysis of Background Data

The analysis of the respondents' background data is presented in this section of the chapter. Table 1 shows the result of the gender distribution of respondents.

Table 1: *Gender Distribution of Respondents*

Gender	Frequency	Percent
Male	129	62.3
Female	78	37.7
Total	207	100

Source: Field Data (2020)

Table 1 shows that out of the 207 teachers used in the study, 129 (62.3 %) were males and 78 (37.3 %) were females. This indicates that males outnumbered females. Respondents were required to state how many years they had taught. Table 2 presents the analysis of their responses.

Table 2: *Distribution of Teacher's Number of Years Taught*

Year range	Frequency	Percent
2-6 years	69	33.3
7-11 years	61	29.5
12-16 years	43	20.8
17-21 years	16	7.7
22-26 years	4	1.9
27-31 years	6	2.9
Above 31 years	8	3.9
Total	207	100

Source: Field Data, (2020)

Table 2 indicates 69 (33.3 %), representing majority of the teachers who replied to the questionnaires, said they had been teaching for 2-6 years. 61 (29.5%) of the 207 respondents said they had been teaching for 7-11 years. Moreover, 43(20.8%) stated that they have taught for 12-16years. Furthermore, 16(7.7%) of the teachers who responded to the questionnaires taught between the age range of 17-21 years. Again, 4(1.9%) and 6(2.9%) of the teachers also said they taught between 22-26 years and 27-29 years respectively.

Notwithstanding, 8(3.9%) have taught for more than 30years. This indicates that the teachers who participated had extensive teaching experience, as they had taught for several years, and were thus in the greatest position to provide accurate information about classroom assessment practices.

Analysis of Data of Research Questions

Research Question 1

What is the knowledge level of teachers of Ellembelle District in classroom assessment?

The main objective of this research question was to explore the knowledge level of teachers of Ellembelle District in classroom assessment.

Teachers were asked to express their levels of agreement or disagreement with questions raised on the level of knowledge in classroom assessment on a four-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3=agree, and 4 = strongly agree). The results were discussed using means and standard deviation.

The mean of the items was estimated by adding up all the responses to each item by each respondent and then dividing by number of respondents who responded to that specific item. Table 3 summarizes the findings.

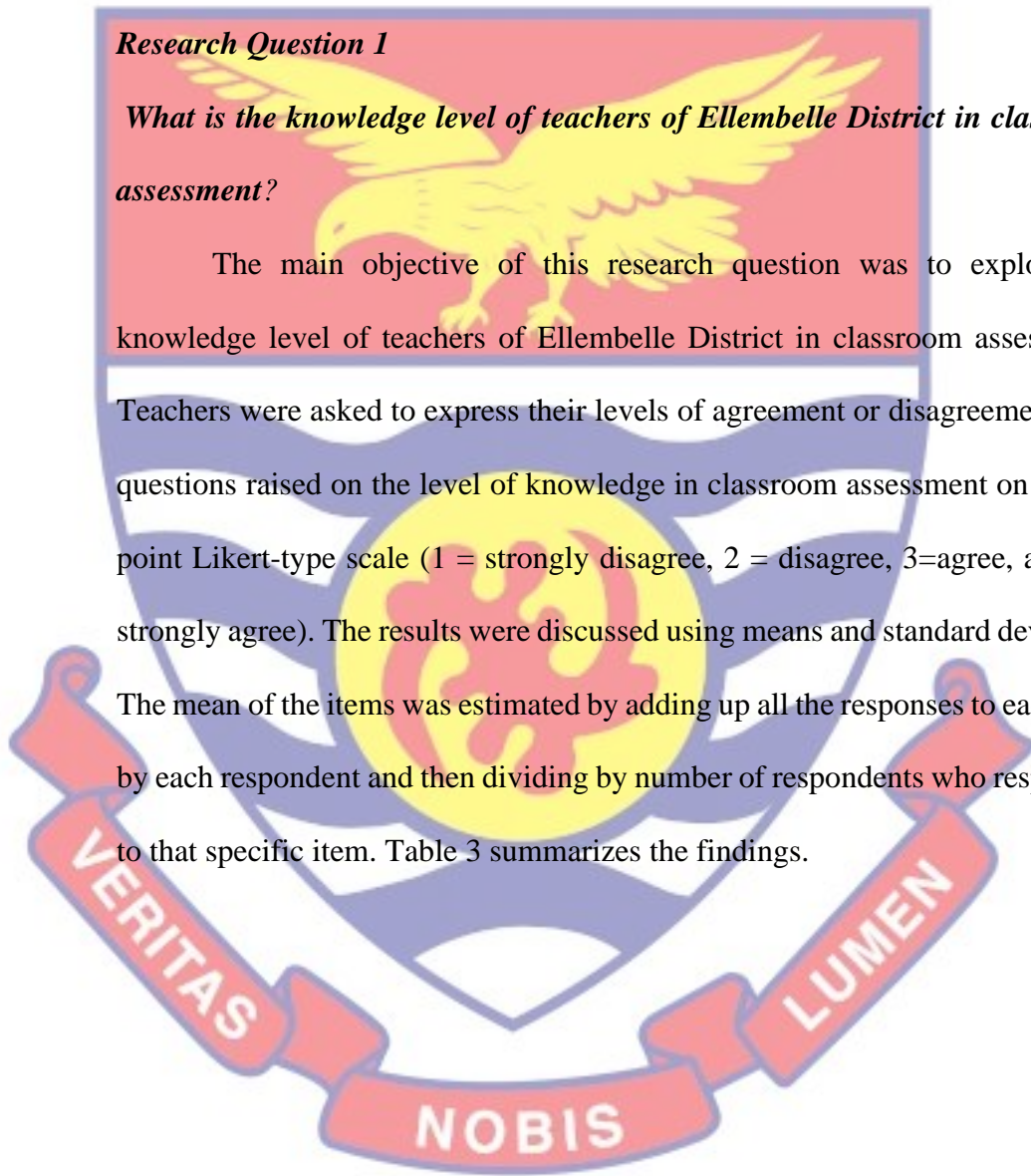


Table 3: *Teachers' Knowledge in Classroom Assessment*

	Statements	Mean	Std. Deviation
1	Classroom assessment is about developing assessment methods in the classroom	2.95	0.702
2	Consider what to assess in students before the assessment begins	3.32	0.687
3	Classroom assessment is about analyzing assessment results	2.99	0.710
4	Ensure that the technique is the most effective in measuring the target	3.36	0.675
5	Classroom assessment is developing performance assessment in the class	3.18	0.627
6	Classroom assessment is developing valid grading procedures in the class	2.98	0.703
7	Use different technique to measure one target	3.36	0.653
8	Make the student interest the focus of assessment	3.01	0.779
9	Classroom assessment recognizes ethics of assessment in the class	3.05	0.605
10	Assessment requires appropriate methods for instructional decisions	3.34	0.618
11	Assessment is much of individual class participation.	3.10	0.776
12	Assessment is much of group class participation.	2.59	0.776
13	Individual hands-on activities are key in assessment.	3.05	0.732
14	Classroom assessment is mainly for promotions	2.25	0.911
15	Assessment may include group hands-on activities.	3.06	0.584

Source: Field Data, (2020)

Table 3 Contd.

	Statements	Mean	Std. Deviation
16	Assessment of individual class participation is a good practice	3.35	0.579
17	Assessment results are the basis for planning teaching	3.28	0.682
18	Matching performance tasks to instruction and course objectives ideal for a good assessment	3.10	0.611
19	Communicating performance assessment criteria to students in advance limit the success of the assessment	2.51	0.913
20	Sometimes it is not bad to assess based on issues outside the course objectives	2.64	0.768
21	Instructions play little role in the assessment	2.25	0.862
22	Using assessment results when developing curriculum	3.08	0.746
23	Assessment results are for evaluating class improvement	3.37	0.592
24	Assessment results are for evaluating school improvement	3.16	0.719
25	Use the assessment to make final decision on the students	2.87	0.942
26	Giving students areas to study for assessment is a bad practice	2.49	1.009
Means of Means and Mean of standard deviation		2.986	0.729

Source: Field Data, (2020)

Table 3 indicates the results of the level of knowledge in classroom assessments of the respondents. It is obvious from the results that generally, the respondents agree with the statements concerning level of knowledge. It was realized that teachers' general mean ($M=2.95$; $S=0.702$) is greater the cut-off mean of 2.50. The findings indicated that the teachers have a high knowledge of classroom assessment.

Out of the 26 items on knowledge level of teachers in the Ellembelle District, 23 had means greater than the average mean of 2.50. Out of the 23 items, teachers showed higher knowledge on 17 of them because the means were greater than the mean of means of 2.986.

In conclusion the analysis on research question one revealed that the teachers in Ellembelle District have a higher knowledge on classroom assessment.

Research Question 2

How do teachers of Ellembelle District practise classroom assessment?

The main objective of this research question was to determine how teachers of Ellembelle District practiced classroom assessment. Teachers were asked to rate their degree of agreement or disagreement with statements on how they practiced classroom assessment on a four-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3=agree, and 4 = strongly agree). The means of the items were estimated by adding up all the responses to each item by each respondent and then dividing by number of respondents who responded to that particular item. The findings are reported in Table 4.

Table 4: *How Teachers Practice Classroom Assessment*

	Statements	Std.	
		Mean	Deviation
1	Assess individual student participation in whole class lessons	3.07	0.700
2	Assess students on problem solving skills	3.01	0.686
3	Use assessment results for decision-making about individual students	3.27	0.693
4	Determine why students make specific mistakes	3.07	0.591
5	Inform students of the objectives of the assessment before assessment begins	2.81	0.893
6	Use assessment results when planning teaching	3.30	0.630
7	Ask students to justify their answers orally	2.57	0.815
8	Communicate classroom assessment results to others	2.52	0.868
9	Assess specific course objectives	2.96	0.678
10	Develop systematic grading procedures	3.17	0.614
11	Make sure the test adequately covers the material taught in class	3.45	0.628
12	Use peer assessments for student assessments	2.53	0.817
13	Fairly and consistently grade essay question responses	2.91	0.617
14	Use a table of specifications to plan assessments	2.94	0.680
15	Develop rubrics (marking keys) for objective grading of students	3.05	0.667
16	Fairly assign grades to all students	3.17	0.769
17	Use assessment results when evaluating class improvement	3.32	0.650
18	Align test items with instructional objectives	3.16	0.667
19	Provide written feedback comments along with grades	3.19	0.705
20	Select textbook-provided test items for classroom assessment.	2.74	0.788
21	Revise previously produced teacher-made tests to match current instructional emphasis.	3.11	0.547

Source: Field Data, (2020)

Table 4 Cont'd

Statements	Mean	Std. Deviation
22 Communicate classroom assessment results to parents	3.38	0.678
23 Communicate classroom assessment results to other educators	3.00	0.722
24 Avoid teaching to the test when preparing students for tests	2.52	0.891
25 Protect students' confidentiality with regard to test scores	3.09	0.790
26 Using multiple test, essay and oral test in one examination	2.90	0.950
Mean of Means	2.996	
Mean of Standard deviations		0.720

Source: Field Data, (2020)

Table 4 presents the findings of the respondents' practice of classroom assessments. It was realized that teachers generally have a good practice of classroom assessment (M=2.996; SD=0.720). This is because the mean of means (2.996) is greater than the average mean of 2.5. The results suggest that the teachers practiced classroom assessment well.

Table 4 revealed that the teachers showed good practices on all the statements they responded to because the means of those practices are greater than the cut-off mean (2.50). The result showed that in general the teachers at Ellebelle district exhibited good classroom assessment practices.

Research Question 3

What are the challenges faced by teachers in practicing classroom assessment?

The main objective of this research question was to determine the challenges teachers face in practicing classroom assessment. Teachers were asked to indicate their levels of agreement or disagreement with statements provided on the challenges faced in the practice of classroom assessment on a four-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3=agree, and 4 = strongly agree). The results are presented in Table 5.

Table 5: *Challenges Faced by Teachers in Classroom Assessment*

S/N	Statements	Mean	Std. Deviation
1	Inadequate attention and resources in developing the classroom assessment process	3.10	0.852
2	Large class size makes is a challenge to me	2.88	0.846
3	It is difficult for me to write items for higher cognitive level	2.75	0.780
4	It is difficult for me to calculate central tendency	2.43	0.746
5	It is difficult for me to assess individual class participation	2.11	0.799
6	It is difficult for me to assess problem-solving skills	2.22	0.804
7	Extensive curriculum requirements poses problems in my classroom assessment	2.86	0.761
8	It is difficult for me to use assessment results for decisions	2.11	0.858
9	It is difficult for me to determine why students make mistakes	2.25	0.809
10	It is difficult for me to use assessment results to plan teaching	2.04	0.844

Source: Field Data, (2020)

Table 5 Cont'd

S/N	Statements	Std.	
		Mean	Deviation
11	It is difficult for me to communicate classroom assessment results	2.14	0.773
12	It is difficult for me to assess specific course objectives	2.16	0.750
13	It is difficult for me to develop systematic grading procedures	2.24	0.817
14	It is difficult for me to ensure test covers the material taught	2.12	0.859
15	It is difficult for me to use peer assessments	2.36	0.788
16	It is difficult for me to consistently grade essay question	2.99	0.731
17	It is difficult for me to use table of specification for test plan	2.36	0.742
18	It is difficult for me to develop rubrics (marking keys)	2.97	0.862
19	It is difficult for me to fairly assign grades to all students	2.10	0.889
20	It is difficult for me to use assessment results to evaluate class improvement	2.06	0.848
21	It is difficult for me to align test items with instructional objectives	2.20	0.803
22	It is difficult for me to provide feedback with comments when grading	2.19	0.909
Mean of Means and		2.40	
Mean of Standard Deviation			0.812

Source: Field Data, (2020)

Table 5 shows the challenges faced by teachers in practicing classroom assessment. The results revealed that the teachers disagreed to facing the stated

challenges in their practice of classroom assessment (M = 2.40; SD = 0.812). The means was found to be less than the cut-off mean of 2.5. However, the teachers agreed that they faced 6 out of the 22 stated challenges (their means are greater than the cut-off mean of 2.5).

The result of the study showed that the challenges teachers faced in classroom assessment are inadequate resources and materials, large class size, inability to write items for higher cognitive level, extensive curriculum, difficulty in grading essay questions and developing rubrics.

Research Question 4

How can classroom assessment be improved?

The main objective of this research question was to determine how classroom assessment can be improved. Teachers were asked to rate their degree of agreement or disagreement with statements made by the researcher on the level of knowledge in classroom assessment using a four-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree). The results were analyzed using means and standard deviation. Table 6 presents the findings.

Table 6: *How to improve classroom assessment.*

	Statements	Mean	Std. Deviation
1	By using performance-based assessment	3.11	0.556
2	By using rubrics	2.80	0.664
3	By using peer assessment	2.80	0.709
4	By using portfolio assessment	2.85	0.725
5	By using self-assessment	3.12	0.658

Source: Field Data, (2020)

From Table 6 above, it was realized that teachers ($M=3.11$; $SD=0.556$) strongly agreed that by using performance-based assessment it will help reduce some challenges that they face in classroom assessments and thus improve assessment in the classroom. It was observed from the teachers' point of view that, using rubrics or marking scheme ($M=2.80$; $SD=0.664$) is a way that can help alleviate some of the challenges faced by teachers in classroom assessments. It was found that teachers believe that using peer assessment ($M=2.80$; $SD=0.709$) would be effective in dealing with challenges faced in classroom assessment. Also, teachers ($M=2.85$; $SD=.725$) agreed that using portfolio assessment is another way of overcoming challenges in classroom assessments. Moreover, teachers perceive the use of self-assessment ($M=3.12$; $SD=.658$) as a measure to mitigate the challenges in classroom assessment. The predominant solution as expressed by the teachers (with the highest mean of 3.12) was the use of self-assessment which could be enhanced through training or further studies.

Analysis of Research Hypothesis

Research Hypothesis One

There is no statistically significant relationship between teachers' knowledge and practice of classroom assessment.

The research hypothesis sought to find out if any linear relationship exists between the knowledge exhibited by teachers and their practices of classroom assessment. The Pearson Moment correlation was used to analyze the data because the variables (knowledge in assessment and practices) are both continuous in nature. The result of the relationship is presented in Table 7.

Table 7: *Relationship between Teachers Knowledge and Practice of Classroom Assessment*

Assessment Knowledge	N	r	R ²	Sig
vrs Assessment practices	207	0.589	0.347	0.00

Source: Field study (2020)

This finding suggests that there is moderate positive relationship between teachers' knowledge and practice of classroom assessments. This suggests that teachers who have significant knowledge in assessment are expected to perform better in assessment than those with limited knowledge. This implies that positive knowledge in classroom assessment would significantly determine and influence teachers' practice of classroom assessment. The results indicated that there is a statistically significant ($p=.000$) correlation between teachers' knowledge and practice of classroom assessments, the null hypothesis is rejected.

Research Hypothesis Two

There is no statistically significant difference in teachers' practice of classroom assessment on the basis of gender

Research hypothesis two sought to find out if teachers' classroom practices differ by gender. That is, it sought to find out if male and female teachers practice classroom assessment the same way. Independent sample t test was used to analyze the results because the dependent variable, classroom practices, is continuous in nature being compared between one independent variable with two sublevels.

Test of Normality

The researcher conducted test of normality of teachers' practice of classroom assessment to ascertain whether or not the data was normally

distributed. The result showed that the distribution of scores within gender is not normal. Both males and females have Shapiro – Wilk sig values of 0.000 which are less than 0.05 (see Appendix B). This is an indication that teachers' classroom assessment within gender is not normally distributed.

Homogeneity of Variance

The test of homogeneity of variance of teachers' classroom assessment within gender was conducted. This was to find if variances of teachers' classroom assessment differ between male and female teachers. The result of the test of homogeneity of variance between male and female teachers for the study was, $F(11, 205) = 3.625, p = 0.120$. The Levene sig. value for the variance was 0.120 (see Appendix C). This means that the variances are assumed equal. This implies that the variances of teachers' classroom assessment are statistically not significant. The result, being statistically not significant means that there are no differences in the variances within gender.

Therefore, the independent sample t-test was conducted to analyse gender differences in teachers' practice of classroom assessment. From the result (See Appendix B), the t- test is not significant at 0.05 level of significance, $t(205) = 0.612, p = 0.541, p > .05$. The null hypothesis that "there is no statistically significant difference in teachers' practice of classroom assessment on the basis of gender" is therefore not rejected. This implies that there is no gender difference in teachers' practice of classroom assessment.

Discussion of Key Findings of Research Questions

Research Question 1

Research Question 1 sought to elicit information from teachers to ascertain the current knowledge level of teachers on classroom assessment. The

results of the study indicated that teachers in the Ellembelle District have significant knowledge in classroom assessment. This may be due to the fact that majority of the teachers in the study are professional teachers who have at least taken a course in assessment. These findings are in line with the work of Gronlund (2006) who suggested that, a sound education in assessment necessitates a clear understanding of all intended learning outcomes of the instruction, as well as a variety of assessment procedures that are relevant to the instruction, adequate to sample student performance, and equitable to all students. The findings back the findings of DeLuca and Klinger (2010), who found that teacher candidates who chose to pursue higher education in an educational assessment course had higher self - confidence in their assessment skills and knowledge than those who did not have formal assessment instruction. They arrived at this finding in a survey where 288 teacher candidates enrolled in a teacher education program in Canada.

In a study of assessment knowledge, skills, and attitudes among 217 in-service teachers in Oman, Alkharusi, Kazem, and Al-Musawai (2011) discovered that teachers who had taken a pre-service course in educational assessment had a higher level of educational assessment knowledge than those who had not. Moe (2012) also discovered that pre-service teachers reported better levels of knowledge on important assessment concepts than principals expected beginner teachers should have on those same assessment topics.

Notwithstanding, these findings contradict those of Volante and Fazio (2007), who showed that in a survey of 69 teacher candidates' assessment knowledge, the candidates' self-described levels of assessment knowledge

remained very low throughout the four years of the teacher education programme.

Again, the result of this work was contrary to the findings of Etsey and Abu (2013) who found out that the college tutors showed low capacity in general on test construction and administration. The difference in the findings may be due to the level at which the teachers were practicing. The sample in the study of Etsey and Abu are college tutors who might be quite older than the sample of this study and career wind-down people tend to lose knowledge on issues of the profession.

Research Question 2

The purpose of Research Question 2 was to determine how teachers in the Ellebelle District practice classroom assessment. It was found out that teachers in Ellebelle implemented good assessment practices which could be emanating from the high knowledge on classroom assessment shown by the teachers. The findings of the study are consistent with those of Vingsle (2014), who found that, despite the fact that formative assessment is a complex, demanding, and difficult task for teachers in many forms, teachers did well to use skills and knowledge to acquire, interpret, and use the garnered data to modify teaching to successfully serve learners' needs, aided learners in engaging in common learning tasks, taking co-responsibility for their learning, dealing with new Mathematics, uncertain scenarios, and making split-second decisions concerning teaching and learning situations. These are evidences of good assessment practices in the classroom.

The findings of Susuwele-Banda (2005), in contrast to the findings of this study, found that teachers perceive classroom assessment as tests that they

give to their learners at predetermined intervals, and that these perceptions of classroom assessment impacted their practices of assessment in the classroom. This meant that the teachers only use test and nothing more. This is an evidence of poor assessment practice. Koloï-Keaikitse (2012) made a contrary finding. According to the study, primary teachers, particularly those with nothing more than a certificate, were found to require additional skill training in assessment applications, statistical applications, and criterion referenced testing. The fact that they need more training in assessment suggests the teachers exhibited poor assessment practices. Ndalichako (2004) also discovered that most Tanzanian primary school teachers prefer to evaluate students' learning through tests and examinations. Assessment is not only about the use of tests but multiple and comprehensive means to obtain information to make decisions. This means that tests only cannot be used as the assessment tool. Such is a deviation from good assessment.

Crooks (1998) examined the influence of classroom assessment procedures on students and concluded that the approach used in the classroom has a significant impact on the extent to which teaching and learning may be improved. Teachers can diagnose problems that students are having in achieving desired learning outcomes and devise appropriate remedial methods to correct the situation if they choose the right classroom assessment method.

Research Question 3

The purpose of this research question was to obtain information from teachers in the Ellembelle District to ascertain the challenges they face in their practice of assessment in the classroom. The findings of the study indicated that

teachers in Ellembelle, generally faced challenges with regard to classroom assessment. The challenges encountered are large class size, resources and some limitation in assessment knowledge and skills. On the average the class size in Ellembelle district was 50 pupils instead of the standard class size of 35 pupils. These findings are in line with the work of various scholars (Sethusha, 2012;

Alkharusi, Kazem & Al-Musawai, 2011; Ogan-Bekiroglu, 2009 & Susuwele-Banda, 2005) who discovered that teacher assessment practices are influenced by teacher beliefs, class size, demographics, teacher training and teacher experience in actual classroom teaching. Metin (2013) and Shorrocks-Taylor (1999) found that the major obstacles in classroom assessments are the large class sizes, extensive requirements of the curriculum, lack of resources and attention in developing the classroom assessment procedures. The findings further support the work of Ramsuran (2006), who discovered that, the difficulty teachers face in effectively implementing assessment policies is due to their high responsibilities in order to meet policy criteria. According to the survey, a considerable amount of time was spent on marking, and a significant amount of time was devoted on portfolio preparation and mark entry, which accounted for 18 percent to 36 percent of total teaching time.

Also, the result of the study is not quite different from the findings of Ogan-Bekiroglu (2009) that teachers encountered various challenges in their assessment practices. The difficulties listed included class size and parental support and teachers' attitudes and knowledge related to educational assessment. Metin (2013) also found out that teachers had insufficient knowledge and inadequate knowledge and skills about rubric. This also, is among the challenges found in this study.

Research Question 4

The purpose of research question 4 was to elicit information on their suggestions on ways to manage the challenges faced in practicing classroom assessment. It was found out that performance-based assessment, rubrics, peer assessment, portfolio assessment and self-assessment approaches should be used to improve classroom assessment. The findings support Wiggins and McTighe's (2005) claim that authentic assessments should be used for more than just testing. They should teach students and teachers how to do a subject and what types of performance difficulties are most significant in a certain field or career. The findings also support the work of Falk, Ort, and Moirs, (2007) and Shepard, (2009) who found that when performance-based assessment (PBA) is used in conjunction with a well-designed measuring tool like a scoring rubric, it can reveal how and why a student is underperforming. As a result, performance-based assessment (PBA) may be able to assist teachers in determining how their learners learn best. Again, Darling-Hammond and Pecheone (2009), found that PBA delivers more timely feedback than large-scale standardized assessments when used as a formative evaluation. PBA allows teachers to make effective improvements while continuously teaching their current students, whereas standardized testing can take months to produce results. This study supports Ogan-Bekiroglu (2009), assertion that teachers' knowledge and attitudes towards educational assessment should be considered when making reforms in educational systems to address the issues of classroom assessment. In a research to handle comparable concerns, Sethusha (2012) discovered that teachers relied on cluster meetings, colleagues and mostly their personal experiences to address these issues.

It could be seen that; all suggested solutions were about in-service training and teacher development. These were to cause an increase in knowledge and skills of assessment in the classroom. This is probably to the fact that the researchers believe that the increase in skills and knowledge in assessment has the potential of helping teachers to overcome the other challenges such as resources and class size.

Discussion of Key Findings of Research Hypotheses

Hypothesis 1

Research hypothesis 1 sought to determine whether a relationship exists between teachers' assessment knowledge and their classroom assessment. That is if there was a significant linear relationship between teachers' assessment knowledge and assessment practices. It was found out that there was positive moderate linear relationship between teachers' knowledge on classroom assessment and classroom assessment practices. This means that knowledge is related linearly to practices. It can therefore be said that any attempt to improve teachers' classroom performance should considerably look into increasing teachers' knowledge in classroom assessment. Even though teachers' knowledge explains 34.7% of teachers' classroom practices, it is still significant to be considered. The findings of this work are line with the findings of the work of Amoako, Asamoah and Bortey (2019) which showed a strong positive relationship between SHS Mathematics teachers' knowledge of formative assessment and how they practiced it. Calveric (2010) indicated a significant relationship between all beliefs and the value of specific assessment practices. The beliefs are influenced by knowledge. It can therefore be said that there is a relationship between teachers' assessment knowledge and their

assessment practice. The finding of Calveric (2010) is therefore, supports the finding of this work.

Hypothesis 2

This research hypothesis sought to find out if male and female teachers practice classroom assessment differently. That is to determine whether there is a significant difference in classroom assessment practice due to gender. It was found out that there is no significant difference in classroom assessment practice between female and male teachers in Ellembelle District. This means that male and female can equally be equipped to do good classroom assessment.

This finding goes contrary to the work of Ndalichako (2015) who discovered that female teachers have a more acceptable assessment practice than male teachers. In relation to classroom practices, the results indicate that female teachers are more likely to employ superior assessment practices than their male teachers to assist and support instruction and learning. The difference of the finding between the study and that of Ndalichako (2015) may be to the fact male teachers faked their answers which is a drawback when using questionnaire as stated by Asamoah-Gyimah and Anane (2018).

The findings of this work are also inconsistent with the results of Alkharusi (2011) who found out that there is a significant difference in classroom assessment between male and female teachers. According to the study, female teachers had a greater degree of self-perceived assessment skills in explaining assessment findings and crafting test items than male teachers. The results of Ndalichako (2015) and Alkharusi (2011) unanimously found that female teachers do better in classroom assessment than males but this study

found no difference in the practices which could possibly be attributed to the faking limitation of the questionnaire for the data collection.

Summary of Chapter

The primary goal of this work is to ascertain teachers' knowledge level and practice of some types of classroom assessment in the Ellembele District.

The results of this study clearly show that teachers in Ellembele District have adequate knowledge on classroom assessment and also have positive classroom assessment practices. However, a number of factors that affected effective classroom assessment practices were identified by teachers. Inadequate attention and resources, extensive curriculum requirements were some of the challenges that teachers faced in classroom assessment practices. Notwithstanding, peer assessment, performance assessment, portfolio assessment and self-assessment were perceived by teachers as strategies to improve classroom assessment.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this study, the target population consisted of all professional teachers in the Ellembele District. Simple random sampling technique was used to select 10 schools from each circuit and purposive sampling technique was used to select teachers who have undertaken a course in assessment and have also practiced teaching for at least two years. A total sample of 207 teachers was selected for the study. Questionnaire was used as the main data collection instrument.

The following key findings were made:

1. The study found that teachers were very knowledgeable about classroom assessment
2. The study found that teachers have positive classroom assessment practices.
3. Challenges Ellembele teachers faced in classroom assessment were inadequate attention and resources in developing the classroom assessment process, large class size, difficulty in writing items for higher cognitive level and extensive curriculum requirements.
4. The study found the use of performance-based assessment, rubrics, peer assessment, portfolio assessment and self-assessment as approaches of improving classroom assessment.
5. There was a moderate positive correlation between teachers' knowledge and practice of classroom assessment.
6. There was no statistically significant gender difference in teachers' practice of classroom assessment.

Conclusions

The purpose of this study was to ascertain the knowledge level and practice of teachers in classroom assessment in the Ellembelle District. Teachers in the Ellembelle District have positive classroom assessment knowledge and practices. This may be due to constant supervision and support services for the teachers which always kept them on track right from their training so that the knowledge did not fade out due to non-use.

Despite the knowledge and practices of classroom assessment, teachers are still battled with challenges such as large class size, extensive curriculum requirement and difficulty in writing items to measure higher order level which limit how far teachers can go with classroom assessment. The use of self and peer assessment, portfolio and performance-based assessment could help reduce the challenge for both male and female teachers.

Recommendations

The following recommendations are made based on the findings of the research for policy and practice.

1. Ministry of Education should develop policies aimed at mitigating the challenges teachers face in the practice of classroom assessment.
2. Ghana Education Service and NaCCA should organise workshops and orientations for teachers to improve their knowledge in classroom assessment practices.
3. Ghana Education Service in Ellembelle District should make sure class sizes in the district are reduced from an average of 50 to 35 pupils so as to enhance effective classroom assessment.

4. Teachers in Ellembelle District should involve peer assessment, self-assessment and performance-based assessment in their practices to improve on classroom assessment.

Suggestions for Further Research

Since the study made use of only teachers in Ellembelle District as the population and questionnaire as the data collection instrument, further studies can be done to involve more districts and also employ interview as part of the data collection instrument.



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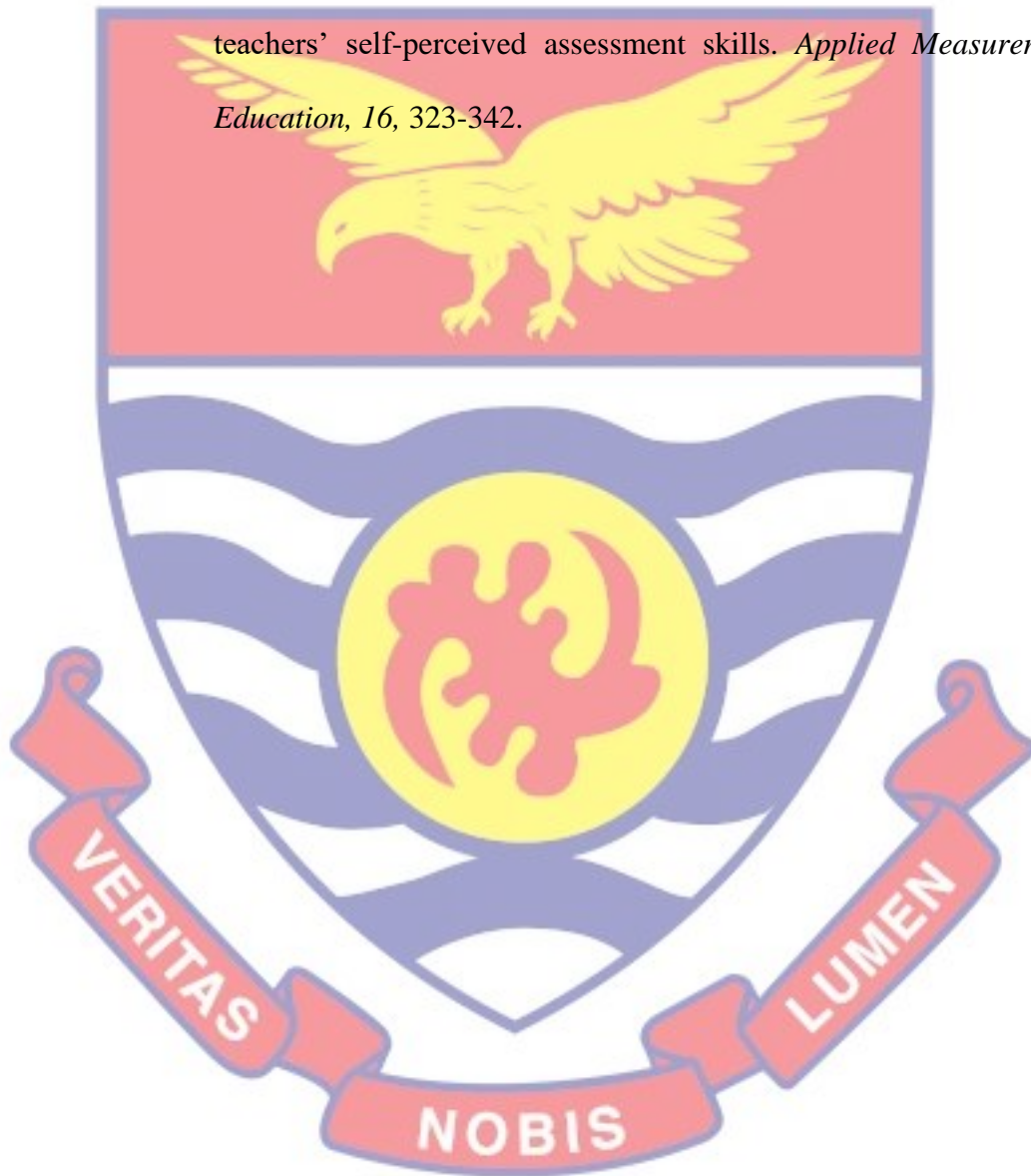
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APPENDIX A

Questionnaire

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

FACULTY OF EDUCATIONAL FOUNDATION

DEPARTMENT OF EDUCATION AND PSYCHOLOGY

QUESTIONNAIRE FOR TEACHERS

This questionnaire seeks information on Teachers' knowledge and Classroom Assessment in Ellembele District. This is purely an academic exercise. I will be grateful to have you take part in the study by answering the questions as honestly as possible. Be assured that the information you provide will be kept confidential. Thank you.

SECTION A

Demographic Data

Please, kindly tick [] the appropriate response

1. Gender/Sex: Male [] Female []
2. Teaching experience: 2 – 6 years []
7 – 11 years []
12 – 16 years []
17 – 21 years []
22 – 26 years []
27 – 31 years []
Above 31 years []

Instruction: In the tables below for each statement mark how much you agree with a tick [] in the box to the right of each statement.

Key: **SD** = Strongly Disagree, **D** = Disagree, **A** = Agree and **SA** = Strongly Agree.

SECTION B

Knowledge of teachers about classroom assessment

S/N	STATEMENTS	SD	D	A	SA
1.	Classroom assessment is about developing assessment methods in the classroom				
2.	Consider what to assess in students before the assessment begins				
3.	Classroom assessment is about analyzing assessment results				
4.	Ensure that the technique is the most effective in measuring the target				
5.	Classroom assessment is developing performance assessment in the class				
6.	Classroom assessment is developing valid grading procedures in the class				
7.	Use different technique to measure one target				
8.	Make the student interest the focus of assessment				
9.	Classroom assessment recognizes ethics of assessment in the class				
10.	Assessment requires appropriate methods for instructional decisions				
11.	Assessment is much of individual class participation.				
12.	Assessment is much of group class participation.				

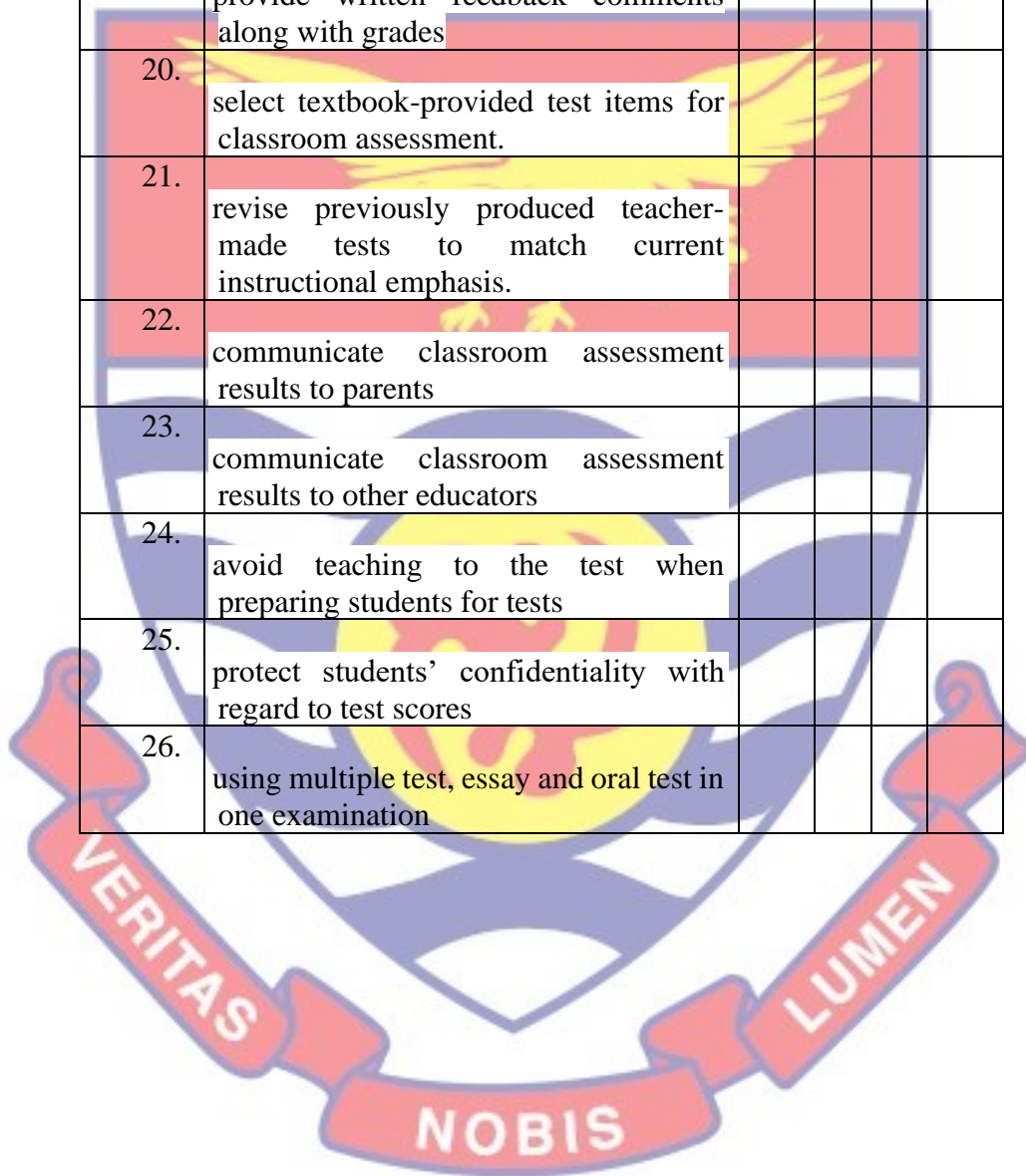
13.	Individual hands-on activities are key in assessment.				
14.	Classroom assessment is mainly for promotions				
15.	Assessment may include group hands-on activities.				
16.	Assessment of individual class participation is a good practice				
17.	Assessment results are the basis for planning teaching				
18.	Matching performance tasks to instruction and course objectives ideal for a good assessment				
19.	Communicating performance assessment criteria to students in advance limit the success of the assessment				
20.	Sometimes it is not bad to assess based on issues outside the course objectives				
21.	Instructions play little role in the assessment				
22.	Using assessment results when developing curriculum				
23.	Assessment results are for evaluating class improvement				
24.	Assessment results are for evaluating school improvement				
25.	Use the assessment to make final decision on the students				
26.	Giving students areas to study for assessment is a bad practice				

SECTION C

How Teachers Practice Classroom Assessment

S/N	STATEMENTS	SD	D	A	SA
	When assessing students, I				
1.	assess individual student participation in whole class lessons				
2.	assess students on problem solving skills				
3.	use assessment results for decision-making about individual students				
4.	determine why students make specific mistakes				
5.	inform students of the objectives of the assessment before assessment begins				
6.	use assessment results when planning teaching				
7.	ask students to justify their answers orally				
8.	communicate classroom assessment results to others				
9.	assess specific course objectives				
10.	develop systematic grading procedures				
11.	make sure the test adequately covers the material taught in class				
12.	use peer assessments for student assessments				
13.	fairly and consistently grade essay question responses				
14.	use a table of specifications to plan assessments				
15.	develop rubrics (marking keys) for objective grading of students				

16.	fairly assign grades to all students				
17.	use assessment results when evaluating class improvement				
18.	align test items with instructional objectives				
19.	provide written feedback comments along with grades				
20.	select textbook-provided test items for classroom assessment.				
21.	revise previously produced teacher-made tests to match current instructional emphasis.				
22.	communicate classroom assessment results to parents				
23.	communicate classroom assessment results to other educators				
24.	avoid teaching to the test when preparing students for tests				
25.	protect students' confidentiality with regard to test scores				
26.	using multiple test, essay and oral test in one examination				



SECTION D

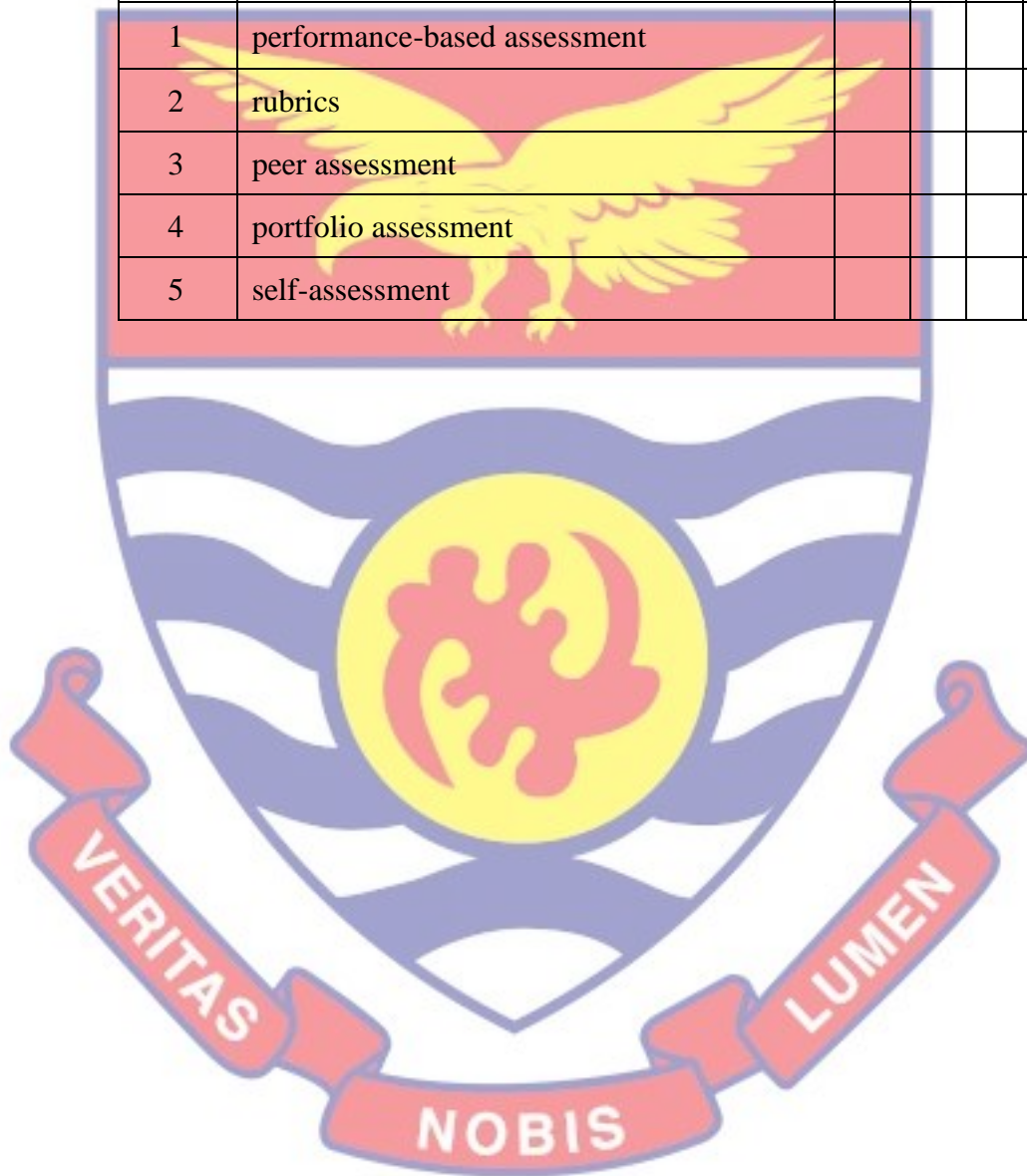
Challenges faced by teachers in practicing classroom assessment

S/N	Statements	SD	D	A	SA
	I find it difficult to				
1.	construct multiple choice items				
2.	construct essay items				
3.	write items for higher cognitive level				
4.	calculate central tendency				
5.	assess individual class participation				
6.	assess problem-solving skills				
7.	use portfolio assessment				
8.	use assessment results for decisions				
9.	determine why students make mistakes				
10.	use assessment results to plan teaching				
11.	communicate classroom assessment results				
12.	assess specific course objectives				
13.	develop systematic grading procedures				
14.	ensure test covers the material taught				
15.	use peer assessments				
16.	consistently grade essay question				
17.	use table of specification for test plan				
18.	develop rubrics (marking keys)				
19.	fairly assign grades to all students				
20.	use assessment results to evaluate class improvement				
21.	align test items with instructional objectives				
22.	provide feedback with comments when grading				

SECTION E

Strategies in managing challenges in classroom assessment practices

S/N	Statements I manage challenges in classroom assessment practices by using	SD	D	A	SA
1	performance-based assessment				
2	rubrics				
3	peer assessment				
4	portfolio assessment				
5	self-assessment				



APPENDIX B

Test of Homogeneity of Variance

F	df1	df2	Sig.
3.625	11	205	.120

Source: Field Data, (2020)



APPENDIX C

Test of Normality for Gender

School	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig	Statistic	df	Sig
Male	.158	128	.000	.959	128	.000
Female	.168	77	.000	.920	77	.000

Source: Field Data, (2020)



APPENDIX D

Gender Differences in Teachers Practice of Classroom Assessment

Gender	N	Mean	Std. D	df	t-value	Sig
Male	129	78.12	7.16	205	0.612*	0.541***
Female	78	77.50	14.73			

Source: Field Data, (2020)

*Significant, $p < .05$ (2-tailed)



