UNIVERSITY OF CAPE COAST

TEACHERS' KNOWLEDGE AND PRACTICES OF SCHOOL-BASED

ASSESSMENT AT PRIMARY SCHOOLS IN THE SAVELUGU

MUNICIPALITY

ROBERT OSMAN IDDRISU

2020

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BY

ROBERT OSMAN, IDDRISU

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 Master

of Philosophy degree in Educational Measurement and Evaluation

MAY 2020

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: ……………………………………………….……………………….

Supervisor's Declaration

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

Principal Supervisor's Signature: .... Date............................

Name: …………………………………………………………..……….

Co- supervisor's Signature: ………………………..... Date……………..……

Name: …………………………………………………………..……

ABSTRACT

The study sought to investigate teachers' knowledge and practices of school-based assessment in the Savelugu Municipality of Northern Ghana. The descriptive survey design was adopted for the study. A total of 270 primary school teachers in the Savelugu Municipality were randomly selected for the study. A 44-item questionnaire was the instrument used for data collection. Frequencies, percentages, means, standard deviation, independent t-test and ANOVA were the statistical tools used for the analysis. Findings from the study revealed that primary school teachers' knowledge in SBA was high. Also, primary school teachers confirmed the practice of SBA. Again, the study revealed that primary school teachers in the Savelugu Municipality are confronted with challenges in their quest to practice SBA. The findings indicated that teachers' knowledge and practices in SBA was not influenced by the teachers' years of teaching. The study further concluded that in-service training on SBA had little or no impact on teachers' knowledge in SBA. It was therefore recommended that Ghana Education Service should provide all schools with the adequate SBA guidelines to serve as a guide and references document to ease teachers burden in conducting SBA.

KEY WORDS

Class assessment task

Classical test theory

Knowledge

Practices

School-based assessment

Teachers

ACKNOWLEDGEMENTS

I first and foremost thank Almighty God for successful completion of this study. My profound gratitude goes particularly to my principal supervisor Professor Y. K. A. Etsey, for his selfless support, patience and suggestions throughout the study of which my academic journey has been enlightened. I am able to come this far through your wealth of knowledge, experience and enthusiasm to help. Prof. I am grateful to you.

I am greatly indebted to Dr. Kenneth Asamoah-Gyimah, my co-supervisor, for his expert advice and suggestions during this research work.

My appreciation also extends to my father Iddrisu Yakubu and my mother Saphia Iddrisu, my Uncles Philip Dramani, Joseph Muniru, Baba Yakubu and Aunty Samata Issah for their help and encouragement in various ways.

My last appreciation goes to all the teachers in the Savelugu Municipality for accepting to participate in the study.

DEDICATION

To the loving memory of my late uncle, Peter Alidu

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CHAPTER ONE

INTRODUCTION

Assessment is important in education and the quality of the products of education depends largely on the success of the assessment system. This is because, assessment serves as a means of regulating the quality of education, its growth and product. A good assessment practice by teachers will help shape the thinking of students, motivating them to study and at the same time check the effectiveness of teaching by the teachers (Nitko, 2001).

Teachers who are the assessors of students must possess some level of knowledge as regards assessment practices. According Lingam and Lingam (2016) teachers without better knowledge and skills in assessment and good-quality assessment tasks preparation are bound to experience difficulties in their classroom practice and the ultimate result is that pupils are likely to suffer the most. However, a study by Awoniyi (2016) revealed that majority of the teachers still practice the old 'continuous assessment' because they do not understand school-based assessment (SBA) guidelines. Also, Talib, Naim, Ali, and Hassan (2014) found that teachers' knowledge in SBA is insufficient and inconsistent in SBA practice.

In response to these concerns, the study sought to establish the level of primary schools teachers' knowledge and the nature of their practice of school-based assessment in the Savelugu Municipality.

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Background to the Study

Assessment has been identified as a critical component and a driving force of educational reform, practices and improvement around the world (Koloi-Keaikitse, 2012). Thus it acts as a foundation on which national development growth is hinged. The realization of the objective of education in any economy is central to the assessment of student learning outcome (Aduloju, Adikwu, & Agi, 2016). In the classroom, assessment helps teachers to be able to identify the gap between what is taught and what is actually being learnt. Teachers use assessment to know what students know, understand and can do. Assessment is traditionally intended to find out and report on what has been learnt with regard to classroom activities (Amua-Sekyi, 2016). Amua-Sekyi argues that assessment is about learning and essential to teaching and learning activities in school.

According to Nitko (2001), assessment involves the process of obtaining information that is used for making decisions about students, curricular, programmes, and educational policy. Assessment plays an important role in providing educators with accurate and relevant information. Assessment informations are crucial in taking decisions regarding students' learning abilities, placement in appropriate levels, and achievement (Kankam, Bordoh, Eshun, Bassaw & Korang, 2014), guiding and counseling, and certifying competence (Nitko, 2001). The assessment process has also been found to be an effective method for improvement of teaching and learning in the classroom (Faleye & Ojerinde-Dibu, 2005) and not just measurement oriented (Darling-Hammond, 2010). To Mehrens and Lehmann (1991), many

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people make hundreds of decisions daily, and making wise decisions, one needs information.

In Ghana, the mode of assessment that is used to assess students since 1987 has been continuous assessment, end-of-term and semester exams. Ogunniyi (as cited in Etsey, 2012) describes continuous assessment as a formative evaluation process that is concerned with finding out, in a systematic manner, the overall gains that a student has made in terms of knowledge, attitude, and skills after a given set of learning experiences. It represents the aggregate of student's performance in the cognitive, affective and psychomotor domains during the duration of the course and it is determined using scores obtained from various instruments and techniques such as tests, projects and observations (Okonkwo, 2002) and opposes the concept of a 'one-shot' assessment or an evaluation in the form of an 'end-of-term' examination (Alufohai & Akinlosotu, 2016; Amedahe, 2014).

Continuous assessment provides an excellent picture of student's performance over a period. It measures the three important domains of learning and reduces students' fears and anxiety about failure. It provides constant feedback, up-to-date records of student's learning and actively involves both classroom teachers and school administration (Etsey, 2012). Alemu (2013) explains that continuous assessment involves the use of a variety of assessment instruments, assessing various components of learning, not only the thinking processes but including behaviours, personality traits and manual dexterity. He argued that, it takes place over a period of time and begins with the teachers' decision on the first day of school and ends when

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teachers and administrators make decisions on the learners concerning end-of-year grading and promotion.

Unfortunately, continuous assessment has not made the expected contribution to pupils' school performance due to the manner it was conceptualized (CRDD, 2011). Some inherent challenges in its operation such as reduction of teacher/pupil contact hours, high level of stress in test taking and marking, lack of emphasis on projects use of questions that required easy marking, lack of uniformity in continuous assessment procedures across schools and lack of moderation has been identified as problems of continuous assessment (Quansah, 2005). In addition, studies conducted by Alemu (2013) identified incomparable scores across schools, more tests and more marking, overemphasis on the cognitive domain with total neglect of the affective and psychomotor domains of behaviour as problems in the practice of continuous assessment system.

Challenges in the continuous assessment system prompted educational authorities in Ghana to adopt school-based assessment (SBA) method of assessing students, which is a modified form of continuous assessment, to address the lapses in the continuous assessment system. SBA is a system that involves the collection of assessment information periodically, using different test modes, inclusion of more complex thinking skills in the testing programme, teacher assistance and remediation, reduced number of assessment and mark recordings, emphasis on student-centred learning, and standardization of SBA practices across schools (CRDD, 2011). According to CRDD (2011, p. 2), the purpose of SBA is to:

1. ensure that the grades pupils obtain at the Basic Education Certificate Examination (BECE) are based on their performance on the internal tests administered in school and on the external examination administered by West Africa Examination Council (WAEC),

2. give schools the chance to make sure that all aspects of the education and training of the young person are taken account of in the assessment of the performance of the young person while in school, and

3. show the quality of their learning in and out of school on the marks they obtain on their SBA assignments. The SBA in effect, gives pupils the chance to receive a broad education.

With the SBA, teachers' class exercises/assignments, class tests, projects/homework, are replaced with individual and group monthly class assessment tasks (CATs) and projects. The introduction of the SBA system has lessened the workload of teachers in the Ghanaian schools. The SBA consists of 12 assessments in a year instead of 33 assessments in continuous assessment, which means, a reduction on the workload of teachers by 64% from continuous assessment procedure (CRDD, 2011).

According to Awoniyi (2016), it is an assessment administered in schools and marked by the students' own teachers. Yates (2018) indicated that, it is an internal assessment and its internal nature lends itself to being used for both purposes of formative and summative assessments, because it provides opportunities for feedback and learning to occur, while at the same time allowing teachers to make summative judgement on what students know and can do at any point in time. It also allows teachers to assess skills and knowledge that cannot be tested in the external examinations (Yates, 2018).

School based-assessment (SBA) is a policy-supported practice that has been increasingly adopted by number of educational systems around the world including those of Australia, New Zealand, Canada, the United Kingdom, the United States of America, and as National Educational policy in Asia as well as in some developing countries, including Ghana and Zambia (Williamson, 2017). The reason for this worldwide drive is to achieve the purpose of assessment through the combination of assessment for learning and assessment of learning in order to improve pupils' learning and their achievement in school (Cheng, Andrews &Yu, 2011; Looney, 2011). Thus, it seeks to assess the learning process as well as the learning outcome (CRDD, 2011; Md-Ali, Veloo, & Krishnasamy, 2015; Opara, Onyekuru, & Njoku, 2015; Yan, 2014). The school-based assessment system is holistic in nature and is conducted in schools by subject teachers in assessing the cognitive (intellectual), affective (emotional and spiritual) and psychomotor (physical) learning aspects of the student (Ghazali, Norazilawati, Hamzah, & Norfishah, 2016; Opara et al., 2015).

SBA is a very effective system for teaching and learning if carried out properly by teachers (Etsey, 2012), as it involves processes of using information to increase students learning and development (Aduloju et al., 2016). This is done by increasing the contact hours for instruction through the reduction of the number of assessment pupils have to undertake and the emphasis on project work which allows pupils to take active part in their own learning (CRDD, 2011).

According to Nugba (2012) and Veloo, Ramli, and Khalid (2016) there are evidence that the implementation of school-based assessment has a

positive impact on teachers' teaching and learning processes as well as student's growth. As argued by Grima (2003), the traditional system of assessment no longer satisfies the educational and social needs of the twenty-first century and therefore, many educational systems have in turn introduced SBA as part of or instead of external assessment in their certification. As a result of exploring SBA to promote higher-order thinking skills in equipping learners for life, European and Asian nations have seen an improved student learning over the past three decades (Darling-Hammond & McCloskey, 2008). In Africa, countries like Malawi have also seen improved pass rates in both basic literacy and numeracy skills after the implementation of SBA. Zimbabwe uses SBA results in promotion of students to Form one and Five (Mhishi, Mandoga, Tunjera & Bhukuvhani, 2012).

However, despite the important role SBA plays such as improving student learning, promote higher-order thinking skills and assessing students holistically, studies conducted around the globe indicate that teachers do not have adequate knowledge and as a result do not effectively practice SBA in their classrooms. For instance, a study conducted by Hamzah, Idris, Abdullah and Muhammad (2015) in Malaysia revealed that many teachers are not knowledgeable in SBA in assessing their students' learning and as such these teachers do not want to accept the implementation of SBA. In addition, in a study by Davidson (2007), Lukman and Uwadiegwu (2012), and Omorogiuwa and Aibangee (2017) revealed similar findings as teachers experience difficulties in implementing SBA in their classrooms.

In Ghana, research has revealed that, teachers do not understand the SBA guidelines and as result do not follow the required procedures in

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practicing it (Awoniyi 2016). Other teachers still practice the 'out-dated' continuous assessment system (Awoniyi 2016; Nugba, 2012). This lack of understanding on SBA has the tendency to affect the reliability and the validity of the SBA practice in the classroom.

More research is therefore needed to obtain more information about teachers' knowledge and practices of school-based assessment in the Ghanaian classroom particularly primary schools. It is in this light that the study sought to investigate primary schools teachers' knowledge and practices of school-based assessment in the Savelugu Municipality in the Northern Ghana.

Statement of the Problem

Teachers, in carrying out school-based assessment (SBA) in their classrooms, need to follow the steps, procedures, and guidelines of the SBA implementation process (Aduloju et al., 2016; Omorogiuwa & Aibangee, 2017). This will help to bring standardization of school-based assessment (SBA) practice across schools and prevent trivial items in testing by teachers (CRDD, 2011) and at the same time improve the validity and reliability of assessment.

However, Md-Ali et al. (2015) in a study revealed that some teachers did not know the composition of SBA as to whether it includes only formative assessment or it covers both formative and summative assessment. The study also revealed that teachers did not have sufficient training in SBA. In Ghana, for instance, Awoniyi (2016) in a study on Senior High School teachers' understanding of SBA and its challenges in ten Senior High Schools in the Cape Coast Metropolis found that the teachers did not understand the SBA guidelines. With these findings, the researcher recommended the need for a

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research on assessment practices in the area of the use of school-based assessment guidelines, construction and administration of test items, scoring and use of test scores to enhance teaching. This seems to suggest that teachers lack knowledge in school based assessment practice in the classroom. The question one may ask is, do primary school teachers in Savelugu Municipality have the knowledge to carry out SBA in their classroom?

In addition, Majid (2011) in a study revealed that teachers do not have the ability to implement SBA in their classrooms. From Malaysia, there is ample evidence that poor knowledge of teachers, insufficient guidelines on SBA and lack of external monitoring were major challenges facing the school-based assessment practices in the classroom (Malakolunthu & Hoon, 2010). Also Azleena (2007) pointed out that teachers encountered problems completing the SBA according to schedule and ensuring the validity of assessment.

Also Talib et al. (2014) in a study found that teachers still had inadequate knowledge in SBA and as result, did not effectively implement it their classrooms. Talib et al. (2014) study failed to find whether differences observed among teachers with different years of teaching was significant though the study indicated that teachers who taught for more years score highest in SBA with respect to knowledge. Therefore, this study sought to find out whether there will be significant difference in teachers' knowledge and practices in SBA in relation to their years of teaching.

However, Hashim, Rusli, Hashim and Hua (2015) found that majority of teachers in Malaysia have adequate knowledge about SBA. But they asserted that, this adequate knowledge was due to their years of involvement

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with SBA and years of teaching. In line with this, Wiredu (2013) in another study found that a teacher's number of years of teaching had a higher influence on his/her assessment practices.

Relevant literature revealed ample evidence that teachers' knowledge and readiness of SBA implementation procedures are highly dependent on teachers' attendance to in-service training (Amedahe, 1989; Veloo, Krishnasamy & Md-Ali, 2015). Thus, those teachers who followed training sessions had better knowledge in SBA (Veloo et al., 2015).

In Ghana, research has revealed that schools and teachers do not follow the laid down procedures in implementing school-based assessment (Nugba, 2012). As a result, the students that the system churns out are not having the quality requirement in accordance with the goals of instruction (Yamtim & Wongwanich, 2014). However, Nugba study did not include primary schools and also did not find out whether teachers have knowledge in SBA. Therefore, this study sought to find out teachers knowledge in SBA.

Meanwhile, to achieve quality education, teachers need to follow the steps and procedures for assessment of students in school-based assessment (Aduloju et al., 2016; Omorogiuwa & Aibangee, 2017), but schools and teachers are practicing the contrary (Awoniyi, 2016; Nugba, 2012). There is the need to find out teachers' knowledge and practices in SBA. From previous studies conducted in the country (Awoniyi, 2016; Nugba, 2012), it seems the studies did not specifically examine teachers' knowledge and practices in SBA, and also did not looked at teachers' years of teaching on their knowledge and practices on SBA.

It appears most of the research work on SBA in Ghana have been limited to High Schools in southern Ghana (Awoniyi 2016; Nugba, 2012) with non-conducted in primary schools and in Northern Ghana. Studies conducted on SBA also seem not to include primary schools in the Savelugu Municipality. Therefore, there is the need to explore teachers' knowledge and practices of school-based assessment in primary schools at Savelugu Municipality in the Northern Region of Ghana.

Purpose of the Study

The main purpose of the study is to investigate primary school teachers' knowledge in SBA and the extent to which teachers are practicing school-based assessment in the Savelugu Municipality in the Northern region of Ghana. Specifically, the study seeks to:

1. examine primary school teachers' knowledge of SBA in the Savelugu Municipality.

2. examine the nature of primary school teachers in Savelugu Municipality practice school-based assessment.

3. investigate the challenges primary school teachers encounter in implementing school-based assessment in Savelugu Municipality.

4. examine the impact of teachers' years of teaching on their school-based assessment knowledge.

5. examine the impact of teachers' years of teaching on their school-based assessment practices.

6. find out whether any differences existed between the knowledge of teachers who have had in-service training and those who have not had any in-service training in school-based assessment.

Research Questions

The following research questions were used to guide the study:

1. What is the level of teachers' knowledge in school-based assessment in the Savelugu Municipality in the Northern region of Ghana?

2. What is the nature of teacher practices in school-based assessment in the Savelugu Municipality?

3. What are the challenges that primary teachers face in implementing the school-based assessment in the Savelugu Municipality?

Research Hypotheses

The following research hypotheses were used to guide the study:

1. H_o: There is no statistically significant difference in teachers' knowledge in school-based assessment in relation to their years of teaching.

   H_1:   There is statistically significant difference in teachers' knowledge in school-based assessment in relation to their years of teaching.

2. H_o: There is no statistically significant difference in teachers' assessment practices in school-based assessment in relation to their years of teaching.

   H_1:   There is statistically significant difference in teachers' assessment practices in school-based assessment in relation to their years of teaching.

3. H_o: There is no statistically significant difference between teachers who have had any in-service training in school-based assessment and those who have not had any in-service training

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in school-based assessment in their knowledge in school-based assessment.

H$_1$:   There is a statistically significant difference between teachers who have had any in-service training in school-based assessment and those who have not had any in-service training in school-based assessment in their knowledge in school-based assessment.

Significance of the Study

The findings from this study would help determine the state of SBA with respect to teachers' knowledge and practices in the Ghanaian educational system. It would specifically establish the level knowledge of SBA among a sample of teachers in Savelugu and it will document their practices in SBA.

In addition, findings from this study would be able to provide important information to Ghana Education Service (GES), schools and teachers concerning the implementation of SBA in schools.

Again, policy makers would also be guided by this study to help improve the school-based assessment policy. That is, it would highlight to stakeholders in education on the enablers and barriers to teachers in implementing good internal assessment practice. The challenges identified in the study would serve as a guide to policy makers.

Also, the findings in this study would be useful for the evaluation of current teacher preparation programmes for SBA content and also be a guide for teacher professional development by Ghana Education Service and Teacher Unions. It would provide information for both initial teacher education and teacher professional development programmes. Finally the

findings should stimulate further research on school-based assessment. This would help contribute to the existing body of knowledge on the school-based assessment.

Delimitations

The scope of this study is delimited to teachers' of knowledge in SBA, the nature of teacher practices in school-based assessment, and the challenges that primary school teachers face in implementing the SBA. Also, the study looked at the knowledge and practices of teachers in relation to their teaching experience, and the relationship between knowledge of those who had in-service training and those who do not have. Again, the research covers only Public primary schools teachers but not Private schools teachers. The study is also delimited to primary school teachers in Savelugu Municipality in Northern Region and not any other district. This is because, in Ghana it appears there is little or no information on SBA at the primary school level.

Limitations

The major limitation of the research design used for this study was relying on self-reporting by respondents and as a result, respondents could give responses that may not reflect the actual situation or practices on the ground in spite of anonymity and confidentiality.

Also, the relatively small sample size of 270 teachers in one District may be difficult to generalize to the population of primary school teachers in Ghana. Therefore, all the major conclusions made in this study are essentially only applicable to Savelugu Municipality primary school teachers and not to Ghana at a large.

However, despite that, I was confident and hoped that these limitations would not affect the validity and reliability of the results obtained for the study and would be valuable to primary teachers in the Ghana because, they can learn from the experiences of teachers in Savelugu Municipality.

Definition of Terms

For the purpose of this study the following operational definitions are used:

BECE: It is the examination used to select and place suitable candidates for Senior High School. It also certifies students upon the completion of basic education.

CATs (Class Assessment Tasks): It refers to the assessments of the SBA.

School-based assessment: It is assessment system that involves the collection of periodic information on pupils' learning status for the purpose of planning improved programmes to enhance the performance of pupils.

WAEC: Examination board established by law to conduct the examinations and to award certificates for the Basic Education Certificate Examination (BECE) for Junior High Schools and the West Africa Senior Secondary Certificate Examinations (WASSCE) for Senior High Schools.

Organisation to the rest of the Study

The study examines teachers' knowledge and practices of school-based assessment at the primary schools in the Savelugu municipality. The study comprises five chapters. Chapter one describes the introduction which includes the background of the study, the research problem and purpose of the study, research questions, research hypotheses, significance of the study, delimitation, limitations, definition of terms and organization of the study.

Chapter two presents a review of related literature. The review comprises theoretical review, conceptual review and empirical studies. It reviews literature on test theory. Also, SBA and its relevance on the classroom assessment, characteristics of school-based assessment in Ghana, school-based assessment in the Ghanaian school system, and composition of SBA are reviewed. Also, empirical review looks at teachers' knowledge and practices of school-based assessment.

The methodology that is employed in the study is found in chapter three. This highlights the research design, study area, population, sample and sampling procedure, the research instrument and the pre-testing. It also describes the reliability, the validity, the ethical consideration, procedure for data collection, and the data processing and analysis.

Chapter four presents the results of the study and discussion of the findings. Chapter five covers the summary, conclusion and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents a review of related literature relevant to this study. The study assessed primary school teachers' knowledge of school-based assessment and its practices in the Savelugu Municipality of the Northern Region of Ghana. The chapter reviewed existing studies on school-based assessment and facts about what other researchers and writers have written about SBA. In this chapter, efforts are made to gather information from both primary and secondary sources on the following thematic areas: (a) theoretical review; (b) conceptual review; and (c) empirical review. Theoretical review covers classical test theory.

The conceptual framework looked at the concept of SBA and its relevance in the classroom, characteristics of SBA, school-based assessment in the Ghanaian school system, and composition of SBA. Empirically, literature is reviewed on primary school teachers' knowledge and practices of SBA. Thus, teachers' knowledge of SBA, nature of teacher practices and the challenges teachers face in implementing SBA. The rest are the relationship between teachers' knowledge of SBA and their teaching experience, the relationship between teachers' practices and their teaching experience, and the relationship between the knowledge of teachers who attended SBA training and those who did not.

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Theoretical Review

Classical test theory

The study first of all engaged classical test theory. Classical test theory (CTT) is an emanation of the early 20th century approaches to measuring individual differences (Schumacker, 2005). Allen and Yen (as cited in Bichi, 2016) indicated that in 1904, Charles Spearman figured out how to correct a correlation coefficient for attenuation due to error measurement and how to obtain the reliability index needed in making the correction. Charles Spearman's finding is considered to be the beginning of Classical Test Theory.

According to Bichi (2016), CTT was born after the following three ideas were conceptualized: recognition of the presence of errors in measurements; a conception of that error as a random variable, and; a conception of correlation and how to index it. According to Bichi (2016) creating a quality test is very important in assessing students' performance and that various indices are developed in order to have valid and reliable items during test development. This theory is therefore useful in constructing and evaluating using school-based assessment.

CTT is based on the assumption that, the average value of a measurement taken over all possible measurements will equal the true measurement in the population (Cochran, 1977). Allen and Yen (2002) observed that most of the standard procedures for constructing and evaluating tests are based on these set of assumptions, commonly called classical (or weak) true-score theory. This is a symbolic representation of the factors influencing observed test scores and it is a simple, quiet useful model that describes how errors of measurement can influence observed score.

Hambleton and Jones (as cited in Bichi, 2016) and Schumacker (2005) argued that, CTT is about test scores that introduce three concepts: test score (often called the observed score); true score, and; error score. Classical true score theory states that our observed score (X) is equal to the sum of our true score, or true underlying ability (T), plus the measurement error (E) associated with estimating our observed scores. Symbolically, CTT can be represented as: $X = T + E$, where the observed score is X, true score is T and error E. Classical test theory is concerned with the relations between these three variables X, T, and E in the population. These relations indicate the quality about the test scores in constructing and administering SBA.

According to Allen and Yen (2002) and Magno (2009), CTT assumes that each person has a true score, T, which would be obtained if there were no errors in measurement. A person's true score is defined as the expected number-correct score over an infinite number of independent administrations of the test. They argued that a person's true score can be found by taking the mean score that the person would get on the same test if they had an infinite number of testing sessions. However, it is not possible to obtain an infinite number of test scores. Therefore, T is a hypothetical, yet central, aspect of CTT.

Allen and Yen (2002) argued further that the model assumes certain conditions to be true; and if these assumptions are reasonable, then the conclusions derived from the model are reasonable. They again indicated that it is psychometric theory that predicts outcomes of psychological testing such as the difficulty of items or the ability of test-takers.

However, test users never observe a person's true score, only an observed score, X. This observed score is almost always the true score influenced by some degree of error. Error is often assumed to be a random variable having a normal distribution (Magno, 2009). These errors influence the observed score by some degree to be higher or lower.

This theory relates to this work in the sense that teachers' consciousness of this model, their assumptions and their limitations, should lead to improved SBA practice and intelligent use of SBA information in decision making concerning students (Crocker & Algina, 2008).

Again, as it suggests the adoption of assessment practices in learning that minimize errors so that observed scores will approximate true abilities, teachers would be guided by the various factors that impede quality assessments and brings few errors in measurement. Thus, teachers will see the need to construct quality test items in assessing students' performance and the various elements that are required to have valid and reliable items during test development.

Attainment of this goal in classroom learning ensures credibility, reliability and validity of educational measurement and assessment scores. Therefore, this theory would be useful in constructing and evaluating school-based assessment as it provides teachers with understanding of the issues in measurement and ways of minimizing them.

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Conceptual Review

The Concept of SBA and its relevance on the classroom

In Ghana, school-based assessment is practiced at both basic and secondary school levels. It is a system that involves the collection of periodic information on pupils' learning status for the purpose of planning improved programmes to enhance the performance of pupils (CRDD, 2011). It puts emphasis on students acquiring thinking skills, problem-solving skills, cooperative learning, the ability to work with numbers, moral and spiritual development and formal presentation skills (CRDD, 2011).

SBA is holistic in nature, as it aims at assessing the students' cognitive, affective and psychomotor domain of learning (Opara et al., 2015). With this, Aduloju et al., (2016) noted that in school-based assessment practice, students are continuously assessed at regular intervals in the three domains of learning; namely, cognitive, affective and psychomotor using different instruments such as test, assignment, observation, interview, questionnaire and project. They pointed out that it originates from the classroom situation requiring active participation and involvement of pupils with emphasis on learning rather than scores and grades. However, Yan, (2014) pointed out that though SBA is designed as a low- stakes formative assessment which provides students with continuous feedback for enhancing their learning, it requires summative evidence of students' learning outcomes which will account for some parts of their final grade.

SBA encompasses continuous and terminal assessment which are carried out in the school, which impact on the readiness, capacity and interest of the children to learn (CRDD, 2011; Onuka & Oludipe, 2006; Yahaya,

2016). It comprises both formative and summative assessments and thus, it assesses both the learning outcomes as well as the learning process (CRDD, 2011; Md-Ali et al., 2015; Opara et al., 2015; Yan, 2014).

SBA also supplements external examinations by providing a more holistic and valid measurement of students' abilities (Jenkins, 1995). It helps to reduce the overly dependence on grades and scores obtained through central examinations (Norzila, 2013; Reyneke, 2016). This enhances the meaningfulness of assessment where the focus is more on students' development and growth in learning rather than merely on their scores or grades (Md-Ali et al., 2015) and for the purposes of integrating it into the teaching and learning process.

Veloo et al. (2015) argued that SBA impacts positively on students' learning and that students are no longer expected to memorize facts but instead understand what they have learned meaningfully. According to Onuka and Oludipe (2006) and Osunde and Ethe (2007) school-based assessment practice broadens and expands the forms, mode, means and scope of assessment in the school to facilitate and enhance learning by providing immediate feedback. In addition, Omorogiuwa and Aibangbee (2017) noted that teachers used SBA information collected as feedback to adjust teachers' teaching and to improve students' learning. In line with this, Yahaya (2016), in a study of the assessment system in the school of Nursing Abubakar Tafawa Balewa University Teaching Hospital Bauchi with the sample of 429 students posited that students perform excellently in SBA and it is due to the fact that series of assessment in SBA creates test-wisdom among students.

According to Awoniyi (2016), the administration of school-based assessment is done by classroom teachers and marked by the students' own teachers. This means that it is teacher-directed assessment procedure involving the teachers from planning to administration of the assessment. Aneke and Finch (1997) noted that assessments that are mostly conducted in students' own classroom by their teachers always make learners active, particularly when formative assessment practices are used. This is because it is mostly held in a more relaxed and familiar environment to both teachers and learners thereby reducing students' anxiety and examination pressure which goes to increase the validity of assessment (Berry as cited in Purvin 2011; Reyneke, 2016).

According to Davison (2007), SBA is concerned with the collection of multiple sources and types of evidence under naturalistic conditions over a lengthy period of time. He further asserts that, unlike high-stakes examinations which are once-off assessment and are based on only parts of the curriculum, SBA is holistic in nature and tends to produce valid assessment.

SBA also improves validity through assessing factors such as problem solving skills that cannot be assessed in external examination conditions (Aduloju et al., 2016). This implies that the scope of validity is broader with SBA than other forms of assessment (Rea-Dickins, 2006).

According Etsey (2012 p. 15), the SBA system is designed to provide schools with an internal assessment system that will help the schools to achieve the following purposes:

1. Standardized the practice of internal school-based assessment in all schools in the country.

2. Provide reduced assessment tasks for each of the primary school subjects.

3. Provide teachers with guidelines for constructing assessment items/questions and other assessment tasks.

4. Introduce standards of achievement in each subject and in each class of the school system.

5. Provide guidance in marking and grading of test items/questions and other teachers' marks.

6. Introduce a system of moderation that will ensure accuracy and reliability of teachers' assessment marks.

7. Provide teachers with advice on how to conduct remedial instruction on difficult areas of the syllabus to improve pupils' performance.

Similarly, Aduloju et al. (2016) in their study of SBA and its implication for national development in Nigeria, identify the following as rationales for school-based assessment:

1. To continuously assess students in a pressure-free environment;

2. To reduce reliance on one-off public examination;

3. To improve reliability of assessment as it occurs by having more than one assessment by a teacher who is familiar with multiple collection of test for judgment;

4. To reflect the standard and ability of students;

5. To foster teaching and learning;

6. To reinforce learner's autonomy and independent learning;

7. It allows the teachers to give immediate and constructive feedback to students.

8. It improves validity through assessing factors that cannot be included in public exam settings;

9. Promote professional development by building teacher assessment skills, which are transferred to other areas of the curriculum.

Characteristics of school-based assessment in Ghana

According to CRDD (2011), the characteristics of SBA include:

1. Periodic collection of assessment information: SBA prescribes the administration of one assignment at the end of each month of the school term. The average of the scores earned by the student will be a more accurate indicator of the student's performance in the subject. To obtain accurate and reliable test data on a student, the test must be spread over a longer time, which allows the student to take tests at different times throughout the year.

2. Use of different test modes: The performance of a student can be better assessed if the assessment is made on different test modes such as class tests, class exercises, homework, projects and other practical activities. SBA will consist of class tests, class exercises and projects. 'Homework' has been eliminated in the redesigned SBA programme and more prominence given to 'projects'. The reason is that it is not certain whether homework will be carried out for the student by an adult. Homework is important in the instructional system and teachers must therefore give homework as part of the instructional process though not scored as part of the SBA.

3. Inclusive of more complex thinking skills in the testing programme: SBA involves tasks that require high ability thinking and performance.

Such tasks require analytical thinking; the ability to generate different solutions to a problem; the ability to plan a project; and the ability to be innovative, generate new ideas and create new products.

4. Teacher assistance and remediation: The process allows the teacher to provide assistance to students in the form of advice on various aspects of students' projects. The teacher is expected to provide constructive feedback to help students reach better understanding of their projects. It fosters cooperation between the teacher and the student especially in the area of students' class projects.

5. Reduced number of assessments and mark recordings: The SBA has reduced the amount of workload in the previous continuous assessment system by 64 percent on the part of the student and by 53 percent on the part of the teacher. This is done to reduce the tediousness in the SBA process.

6. Emphasis on student-centred learning: The SBA system puts a lot of importance on project undertaking. It allows the student individually or in groups, the freedom to explore different ideas and skills to produce something of their own.

7. Standardization of SBA practice across schools: This characteristic is particularly important in Ghana. In previous years where class teachers had the option of setting their own continuous assessments, a variety of exercises, some good and many of them rather trivial, were used in the school system. The number of items used in the continuous assessment system was not uniform and the marking and grading systems differed from school to school. The SBA system has been designed to improve

the old practice of leaving schools to develop their own assignments by supplying schools with sample items/questions, project topics, marking and grading systems.

Similarly, Reyneke (2016) stated that, SBA is characterized by its authenticity and robustness besides being holistic, integrated, low stake and at the same time promotes higher-order thinking skills among students.

School-based assessment in the Ghanaian school system

In Ghana, school-based assessment is the standardized form of continuous assessment system. The 2007 Education Reform in Ghana strongly recommended a reduction of public examinations and excessive tests at both secondary and primary levels (Anamuah-Mensah as cited in Oduro, 2015) starting September 2008. This was intended to ensure that teachers get enough time to teach for conceptual understanding.

According to CRDD (2011) SBA is a system for collecting periodic information on pupils' learning status for the purpose of planning improvement programmes in the performance of pupils. The SBA presents a reduced number of assignments that can be easily handled by both teachers and pupils by achieving the objectives of the syllabuses and consequently raises the standard of learning (CRDD, 2011).

In Ghana, SBA is based on six related emphases as detailed below (CRDD, 2011). SBA will assist pupils acquire:

1. Thinking Skills: This means that pupils should be able to get better understanding of issues, the ability to generate ideas, develop new processes and strategies.

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2. Problem Solving Skills: This means that pupils should be able to acquire the ability to understand a problem, looking at it from different ways and adopting solutions based on combination of knowledge and practices from different subjects.

3. Cooperative Learning: The pupils should be able to work with class mates in groups to carry out projects and learn in the process.

4. Working with Numbers: Greater ability in working with numbers and thereby acquire more understanding and application of mathematical processes in everyday problems.

5. Moral and Spiritual Development: The pupils should be able to acquire the attitude of fairness in dealing with others and a general positive attitude in life.

6. Formal Presentations Skills: The ability to make formal presentations before class mates and answer questions.

School-based assessment modes and times of administration in Ghana

According to CRDD (2011), three assessments and a project work will be conducted in a term, making a total of twelve assessments for the year. The assessments for a term will comprise two tests, one group exercise and a project. The assessments are referred to as Class Assessment Tasks (CAT).

CAT1 will be a task made up of test items and administered at the end of Week 4 of Term 1. CAT2 will be a group exercise and administered at the end of Week 8 of Term 1. CAT3 will also be a class test and administered at the end of Week 11 of Term 1. The project for the first term will be CAT4.

CAT5 will also be a task made up of test items and administered at the end of Week 4 of Term 2. CAT6 will be a group exercise and administered at

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the end of Week 8 of Term 2. CAT7 will also be a class test and administered at the end of Week 11 of Term 2. The project for the second term will be CAT8.

CAT9 will also be a task made up of test items and administered at the end of Week 4 of Term 3. CAT10 will be a group exercise and administered at the end of Week 8 of Term 3. CAT11 will also be a class test and administered at the end of Week 11 of Term 3. The project for the third term will be CAT12.

SBA administration is expected to be completed by the end of the eleventh week to allow schools the time for preparation and administration of the End-of-Term Test in the twelfth or last week of the term. Project work topic selection and data collection starts in the second week, completed and submitted in Week 12 of the term or end of the term, whichever is earlier.

Number of assessments and mark allocation in a term

Table 1 shows the distributions of the four assessments in each term, the number of items in each task and mark allocation for the upper primary.

Table 1: *Distribution of Tasks, Number of Items in Each Task and Mark Allocation*

	Primary 4		Primary 5		Primary 6	
	No. of Items	Mark Allocations	No. of Items	Mark Allocations	No. of Items	Mark Allocations
CAT 1	10	10	10	10	10	10
CAT 2 (Group Exercise)	1-3 items	20	1-3 items	20	1-3 items	20
CAT 3	10	20	10	20	10	20
Total marks for the CATs		50		50		50
End of Term exams		50		50		50
Total Marks for CAT1-3 and End of Term Exam		100		100		100
CAT 4: Project	1 project	100	1 project	100	1 project	100
Total number SBA of assessments per term	4	200	4	200	4	200

Source: Adopted from (CRDD, 2011)

From Table 1, the marks for CATs, (CAT1-3) totaling 50 marks would be added to the marks from the End of-Term examination making a total of 100 marks and used for grading the performance of the pupil in the term. The SBA project should be marked out of 100 and graded separately.

Directions for developing and administering class assessment tasks

In developing class assessment tasks, the syllabus objectives should be group into three terms. CRDD (2011) outlines the following guidelines in determining the critical objectives:

1. Objectives that are very critical in each term's work. Objective is very important and crucial for continuing study of the subject).

2. Objectives that are difficult for pupils to understand and difficult to teach.

3. Objectives that consist of a series of activities.

4. Objectives that need creativity on the part of the pupil for learning performance.

Class assessment task 1 (CAT1)

The first assessment (CAT1) for each of the three terms is an individual assessment and it is administered after the first four weeks of the term. The objectives to be used for CAT1 are objectives to be taught in the first four weeks of each of the terms. CAT1 will be administered, scored and reported to provide information on each pupil's performance on the items set in the task. CAT1 should be weighted 20% and should essentially cover the following separate profile dimensions of the material taught in class such as knowledge, understanding and application (CRDD, 2011).

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Class assessment task 2 (Group Exercise)

According to CRDD (2011), CAT2 which is second class assessment in Term 1 should be a group exercise and its administration is at the end of eight weeks of the school term. It aims to introduce pupils to the principles and ethics of cooperative learning and ensure that they master the key topics they have problems with. Therefore, it should be designed in one, two or three critical and important but difficult specific objectives in the subject or encountered in the first month and in the second month of the term.

CRDD (2011) pointed that, the teacher should go round the groups as they work and offer help as may be needed without giving correct answers. Also, the teacher should ask the various groups of pupils to give themselves a mark and a grade for the work they have done in each of CAT2, CAT6 and CAT10 at the end of the exercise. These perceived marks and grades given by the pupils are not final as it helps the pupils to be conscious of their responsibility for working hard at problems and also motivate them to learn.

Scoring group work

CRDD (2011) indicated that marks should be awarded in relation to the effort and performance of each group. It noted that, highest mark should be awarded the group(s) that shows understanding of the concepts in the topic and produces the best activities/results. CRDD (2011) observed that not all pupils in the top group may get the highest mark as one or two pupils in the group may not be performing at the same level as the rest of the group.

Class assessment task 3 (CAT3, CAT7and CAT11)

The third class assessment should come at the end of the eleventh week of each term. According to CRDD (2011) in setting CAT3 and CAT7 test items, the teacher should develop the tasks that they will consist of:

1. 20% of objectives taught in the first month (First four weeks of the term).

2. 20% of objectives taught in the second month (Second four weeks of the term).

3. 60% of objectives taught in the third month (Weeks 9 – 11 of the term).

However, CAT11 should be developed using an overlapping system in a way that will consist of:

1. 20% of objectives taught in the first term.

2. 20% of objectives taught in the second term.

3. 60% of objectives taught in the third term.

The end-of-term examination

According to CRDD (2011), in developing the end-of-term examination, Term 1 should be based on all the objectives taught for the Term; Term 2 examination should be based on 30 percent of the instructional objectives of Term 1 and 70 percent of the instructional objectives of Term 2. Term 3 examination should be based on 10% of the objectives of Term 1, 20% of the objectives of Term 2 and 70% of the objectives of Term 3. The reason for the overlapping the tests is necessary to make pupils aware that they should not forget the previous Terms' work. Teachers are however, expected

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to set 40% of the test items in the end-of-term tests to be of high-ability thinking type.

Composition of SBA

The school-based assessment (SBA) system comprises of formative, summative (Aduloju et al., 2016; Md-Ali et al., 2015; Omorogiuwa & Aibangee 2017; Opara et al., 2015) and project assessment (CRDD, 2011). According to Omorogiuwa and Aibangee (2017) the purpose is to integrate SBA into teaching and learning process, with teachers involved at all stages of the assessment from planning the assessment, to making the final judgments.

Formative Assessment

According to Fook and Sidhu (2006), SBA has the component of formative assessment and it is an integral part of the teaching and learning process. Thus, it plays a critical factor in promoting quality education and educational improvement efforts (Oduro, 2015). According to Centre for Educational Research and Innovation [CERI] (as cited in Zhan & Wan, 2010), formative assessment refers to frequent, interactive assessments of student progress and understanding to identify learning needs and adjust teaching appropriately. In formative assessment different modes of assessment are employed for a comprehensive understanding of various aspects students' learning (Zhan & Wan, 2010). Thus, it provides information on student's strengths and weaknesses in relation to their academic progression and help teachers adjust teaching appropriately (Zhan & Wan, 2010; Looney, 2011). Also, SBA can serve as a monitoring device for teachers by using feedback information to adjust teacher's teaching and to students to improve their learning (Omorogiuwa & Aibangee, 2017).

In SBA, teachers are expected to use formative assessment to guide effective decision-making particularly with respect to identification, remediation and on-going evaluation of the learners (Omorogiuwa & Aibangee, 2017). SBA vary the form and use of assessment tasks with the space for including formative tasks as well as continual assessment in which scores aim towards final marks rather basing pupil performance entirely on public examinations (Oduro, 2015).

Begum and Farooqui (2008) also noted that SBA assesses students' progress on an ongoing basis during the year, and plays an important part of the students' learning. This is because, teachers mostly give regular feedback to their students to help them learn better and also develop students' thought process, and their ability to solve problems.

According to CRDD (2011), SBA requires that after marking and grading, teachers should help pupils to overcome their learning challenges by performing the following activities:

1. Counseling pupils.

2. Organizing remedial teaching activities for low achievers.

3. Organizing enrichment activities for high achievers.

4. Conducting performance appraisal meetings with Parent Teacher Associations (PTAs) or holding discussions with individual parents on some of the difficulties their children are facing in their lessons and the possible help parents could give.

Formative assessment is conducted during the learning process to promote student's learning but not merely judge or grade student success (Stiggins, 2005). Stiggins noted that, traditional formative assessment is

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intended to provide teachers with more frequent evidence of students' mastery of standards that helps in making useful instructional decisions. This means that, formative assessment intends to enhance student learning. Stiggins attributed the interest in formative assessment to the realization that once-a-year summative standardized testing does not happen frequently and also does not provide enough evidence for instructional decisions.

According to CRDD (2011), the value of SBA will only be realized if teachers allow time for pupils to complete the assignments and spend at least one class period to explain the mistakes pupils made on the tasks and then offer help to correct their mistakes. Also marks given for each of the tasks must be accompanied by teacher diagnostic comments on areas the pupil performed poorly (CRDD, 2011).

However, Fook and Sidhu (2006), noted that time constraints, the rush to complete the syllabus, heavy teaching load and administrative duties are challenges that hindered teachers from using SBA results to enhance student learning.

Summative Assessment

The SBA has the feature of summative assessment such as the end-of-term examination which provides information on students on how much they have learned for the term or year (CRDD, 2011). Thus end-of-term examination is summative assessment as it takes the overall learning of pupils at the end of the term. According to Stiggins (2005), summative assessment tests are administered after learning activity is supposed to have occurred to determine whether learning has actual taken place. It is used to confirm what students know and to demonstrate whether students have met the standards

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and/or show how they are placed in relation to others (Earl, 2006). Looney (2011) noted that, summative assessment refers to summary assessments of student performance – including tests and examinations and end-of-year marks. Looney argued that individual student's summative assessments may be used for promotion, certification or admission to higher levels of education. It should also involve collected accumulation evidence over time, and coverage of previous learning (Earl & Giles, 2011).

According to Williamson (2017), summative assessments are used to measure what students have learnt at the end of a unit, to promote students, to ensure they have met required standards on the way to earning certification for school completion, to enter certain occupations, or as a method for selecting students for entry into further education. This summative assessment had increasingly been used to sum up learning (Black & Wiliam, 1998). It is separated from teaching and is carried out at intervals when achievement has to be summarized and reported (Harlen, 1998).

Aduloju et al. (2016) argue that summative assessment involves assessing students' performances at the end of given period through testing or examination. They indicated that, it is an evaluation at some logical and terminal points and usually comes at the end of course of instruction.

Summative assessment determines whether a student has attained a standard that will permit him or her to move to the next level of learning or stage in career (Lafave, Katz & Vaughn, 2013). This means that, student learning at the end of a term is evaluated by comparing it against some benchmark or standard.

Stiggins (2005) however indicated that, summative assessment fails to provide a sufficiently detailed picture of student learning to enable teachers identify individual students' weakness. He argued that, these assessments tend not to provide evidence of each student's mastery of individual standards.

Project

SBA system makes project work a central part of learning in schools (Mansor, Leng, Rasul, Raof, & Yusoff, 2013). They argued that, project is intended to make the learning meaningful and at the same time involves students in the learning process. Thus it emphasizes the pupil-centred instructional approach to learning (CRDD, 2011). In SBA, project work allows students to apply knowledge and skills acquired in the school term to carry out authentic assessment tasks and write analytic reports (Awoniyi, 2016).

Projects also give pupils the opportunity to apply their learning in practical terms by developing new ideas, processes, and products and at the same time acquire critical thinking skills for their future careers and personal lives (CRDD, 2011). As a result, projects take the form of investigations, experiments, material production or combination of any two in a particular subject of study. This should lead to the production of a physical product, a new idea or a new process involving high-order abilities such as analysis, evaluation, self-correction and synthesis of ideas and skills (CRDD, 2011).

According to Awoniyi (2016), project-based learning usually requires students to take a substantial amount of time to finish and as a result, the teacher is expected to give the students the opportunity to periodically present progress reports to the class for colleagues' feedback and suggestions.

Mitchell, (as cited in Fook & Sidhu, 2006) noted that teachers therefore need to have diverse knowledge for assessing both the process and product of student learning in SBA projects.

Approaches for conducting SBA projects

In Ghana, the approaches of fused and emerging curriculum approach are adopted by CRDD in administering SBA projects. This is because, each pupil is required to carry out one project a term in each of the subjects on the curriculum, and the likelihood that pupils may have too many projects to carry out within a term and teachers will have too many projects to mark in a term.

According to CRDD (2011), the fused curriculum approach is an integrated curriculum system where, two or more subjects may be fused together with one of them as the organizing subject. Thus, the fused curriculum is organized around one of the subjects while the other subject(s) is/are brought in as and when needed. For example Creative Arts may be fused with Natural Science.

Empirical Review

This section of the study reviewed empirical studies on the teachers' knowledge and practices of SBA.

Teachers' knowledge on school-based assessment

According to Veloo et al. (2015) teachers' knowledge in the implementation of SBA has a direct impact on students' learning situations and outcomes in schools. This is because teachers played a pivotal role in students' assessment and need to have these knowledge and understanding to conduct assessments on students' learning in the classroom (Antonio, 2008).

Stiggins (1995) noted that all efforts toward improving the performance of students will only be fruitful when teachers master the basic principles of sound classroom assessment practices. Stiggins argued that teachers must understand how to gather dependable evidence and how to use it productively to support teaching and learning.

Awoniyi (2016) studied the understanding of mathematics teachers of school-based assessment (SBA) in the Cape Coast Metropolis of Ghana. The study also examined the challenges mathematics teachers in the Senior High Schools face in the management of SBA and ways of improving its practices. Awoniyi employed descriptive research design involving a sequential mix method strategy where questionnaire and interview were used to gather data. The study sampled a total of 110 mathematics teachers from 10 senior high schools in Cape Coast Metropolis who took part in the study. The study revealed that mathematics teachers understanding of SBA guidelines was low and as such many teachers still practice the old 'continuous assessment' scheme instead of SBA.

The study identified lack of assessment materials, absenteeism and truancy, inadequate record keeping facilities, students copying one another's assignment and class work as challenges of SBA. Also, favouritism by teachers, teachers inputting of fake results because of their closeness to the student's parents or student, inadequate time for test construction, insufficient instruction time and lack of skills in assessment practices were some of the challenges identified. The study further revealed that majority of the respondents 63% suggested in-service training in SBA as a way of improving teachers understanding of SBA and skill in assessment practices.

Nugba (2012) conducted a study that looked at the effectiveness, impact and challenges of the implementation of SBA in Obuasi Municipality. Descriptive survey with the sample of 130, made up of 111 purposeful selected Junior High School core subjects teachers, 13 randomly selected head teachers, 5 purposeful selected circuit supervisors and 1 purposeful selected assessment officer were involved in study. Questionnaire, interview guide, and observation guide were the instruments used to collect data. The research revealed that SBA had some positive impact on students' learning in the classroom. However, the study found that teachers were not following the recommended procedures in assessing their students in SBA format. The study further identified inadequate equipment and facilities, non-availability of SBA guidelines, lack of training for teachers on school-based assessment and lack of support from GES in terms of materials as challenges the teachers faced.

Also, a study to assess the knowledge and practices of Malaysian primary teachers who were directly involved in the SBA implementation was undertaken by Talib et al. (2014). Talib et al. (2014) employed descriptive research design to examine the level of knowledge and practices of 400 school teachers in Johor Bahru using simple random selection. Teacher assessment knowledge and practices inventory (TAKPI) were developed to measure the teachers SBA knowledge and practices. The study revealed that teachers had insufficient knowledge in implementing SBA and the teachers were further found to be inconsistent in SBA practices.

In another study, Md-Ali et al. (2015) looked at the implementation of SBA in Malaysia and the issues related to its early years of implementation, which included teachers understanding of SBA and their readiness to

implement SBA in their respective Primary and Secondary Schools. The study sets out to provide a glimpse of the purposively selected group of seven teachers' understanding of SBA and to what extent they were ready to implement SBA in their schools. Exploratory qualitative study involving face-to-face interview was used to obtain information from the national primary school and national secondary school teachers. The study found that teachers lacked knowledge about SBA. Md-Ali et al. further found out that most teachers were unclear about SBA composition, whether SBA included only formative assessment or it covers both formative and summative assessments. Md-Ali et al. (2015) recommended effective training sessions that are domain-specific or subject-focused that would provide the needed skills and competence for teachers to deal with matters and processes that they will be facing when implementing SBA.

Hamzah, Idris, Abdullah, Abdullah, and Muhammad (2015) in their study, looked at planning and implementation of school-based assessment among teachers. The study used a combination of qualitative and quantitative approaches. A randomly selected 589 teachers responded to a questionnaire and a total of 4 teachers were interviewed. It was found out that many teachers did not know and were not skilled in assessing their students.

Kaira (2002) studied Malawi teachers' knowledge and attitudes towards standardized tests. The study sampled 6 secondary schools to participate in the study. Kaira found that as many as sixty-five (65%) percent of teachers admitted that they did do not have enough knowledge and skills to carry out SBA. Kaira (2002) speculated that poor qualification of teachers and

insufficient training could be the reason for low knowledge of teachers in SBA.

Fook and Sidhu (2006) studied knowledge and best practices of Malaysian English as Second Language (ESL) teachers in conducting SBA in Secondary Schools. Fook and Sidhu (2006) employed descriptive research design utilizing questionnaire and structured interviews as the instruments. The study sampled 97 teachers from 14 schools to respond to the questionnaire and randomly selected eight secondary school teachers in the state of Negeri Sembilan and six day-time secondary schools in the state of Melaka were interviewed.

The study revealed that, most of the respondents had acquired adequate knowledge in constructing their own tests, but one third of the respondents admitted that they often applied "cut and paste" method by which they were worried about the validity and reliability of the tests constructed. However, the study further revealed as many as 70% of the teachers in the study felt they were not exposed to SBA though they acknowledged constructing their own test.

Samsudin, Rengasamy, Jizat, Jalil, and Abdul Wahid, (2016) investigated teachers' readiness, understanding, and workload in implementing SBA at the primary schools. Descriptive research study design was used to randomly sample 260 teachers from 67 primary schools in Kerian district, Malaysia. A stratified sampling technique was used, where the researcher divided the schools into National Primary School (SK) and National-type School (Chinese and Tamil).

The findings from the Samsudin et al. (2016) study revealed that teachers at primary schools level of understanding and readiness towards implementing SBA was high. The study attributed the high understanding to the support services and online mentoring by the Malaysian Examination Syndicate and the training sessions most teachers attended. However, primary school teachers' practice of SBA was only at a moderate level.

Similarly, Hashim et al. (2015) investigated the readiness of ESL (English as a Second Language) teachers in implementation of school-based assessment in Malaysian Secondary Schools. A descriptive survey with a sample ninety of (90) teachers from fourteen schools in two states of Malaysia was used for the study. The study found that respondents had adequate knowledge about SBA. Further findings revealed that respondents were aware of the best practices in the implementation of SBA. However, unlike Samsudin's et al. (2016) study where teachers knowledge were attributed to support, mentoring services and training sessions teachers received, Hashim et al. (2015) attributed the adequate knowledge to teachers' years of involvement with SBA and years of teaching. However, Hashim et al. (2015) cautioned against generalization of the findings as there was a need for more research into the area.

Veloo et al. (2015) conducted a study to assess teachers' knowledge and readiness to implement SBA in secondary schools. Sample size of 210 teachers from 18 national secondary schools in Kedah district, Malaysia responded to a questionnaire. The study revealed that majority of teachers was knowledgeable about SBA.

This finding was not in isolation as studies like Fook and Sidhu (2006), Hashim et al. (2015), and Samsudin et al. (2016) found similar results. The overall mean value of 3.27 for teachers' knowledge in Veloo, et al. study as compared to the current study of 3.12 showed that all the teachers agreed that they had the knowledge about SBA. In terms of readiness, the mean 3.09 as compare to the current study mean score 3.12 on teachers knowledge shows that all the teachers agreed that they were ready to implement SBA. However, comparing teachers' knowledge level to their readiness level in Veloo, et al study suggest that teachers have relatively more knowledge but are less ready to implement the SBA. Veloo et al. (2015) recommended that formal training session for teachers to help reduce the gap between theory and practice of SBA.

Othman, Md Salleh and Norani (2013) investigated the implementation of SBA in Malaysia Primary School Standard Curriculum. The sample was 157 primary school teachers. The study found that teachers understood the principle of SBA and were ready to implement it in their curriculum. The study revealed an overall mean score of teachers' knowledge in SBA to be 3.39 as compared to the current study which also revealed as high as 3.12 mean score of teachers' knowledge in SBA.

Mansor, Leng, Rasul, Raof, and Yusoff (2013) studied the benefits of school-based assessment in Malaysia. Three-Year 1 Chinese language teachers were interviewed. The study found that both teachers and students benefitted from the SBA system. The study further revealed that primary school teachers had the basic understanding of the characteristics of SBA. However, all

teachers in this study admitted that there were glitches or 'teething troubles,' mostly in preparing the instruments.

Adediwura (2012) studied the apparent effect of SBA on Nigerian secondary school teachers. The study was aimed at determining the preparedness of the teachers to conduct SBA and its perceived effect on their teaching practices and students' learning. With the sample size of 540 teachers, the study revealed that more than half of the sampled teachers were not adequately prepare to conduct SBA. Thus, only 40.7% of the sampled teachers responded that they were knowledgeable in SBA. The preparedness include good understanding of SBA requirements, procedures, marking criteria, moderation system of SBA and opportunity for professional development on the conduct of SBA. It was however curious to observed that greater numbers of teachers from Federal Government Colleges were more prepare to conduct SBA in their school better than state public schools and private school.

Muluye (2016) investigated the perceptions and understanding of the secondary school Mathematics teachers toward school-based continuous assessment in n Gedeo Zone, Ethiopia. The sample of 56 mathematics teachers, 8 school principals and 150 students participated in the study. It was revealed that teachers did not have enough knowledge about continuous assessment. The study further found that teachers seem to have doubts about how CA will contribute to students' achievement and their own role in the classroom in the new assessment system.

Nature of teacher practices in school-based assessment

On the practices of SBA, Veloo et al. (2016) examined assessment practices among English teachers in Malaysian Secondary Schools. Descriptive study design that utilized both questionnaire and structured interview was adopted. Two-part Assessment Practices Inventory (API) was administered to 49 English teachers in Terengganu, Malaysia followed by a semi structured interview conducted on 15 teachers to get deeper understanding of their assessment practices.

The study revealed that SBA practice among English language teachers in Marang was at an average level. They further revealed that, classroom assessment conducted by teachers were limited and were done just to satisfy the SBA requirement and not to identify students' learning challenges or plan teaching. They argued that when teachers administer meaningful assessment, it helps students to monitor their own learning and at the same time revealed their potentials.

Also, the study found differences between the assessment practices of the teachers who had attended courses on SBA and the teachers who had not. This means that SBA courses did have an impact on the effectiveness of SBA practice. They concluded and recommended that teachers should take the necessary steps to upgrade their knowledge and skills in assessment, especially SBA.

Oduro-Okyireh (2008) in the study attempted to find out whether Senior Secondary School teachers in the Ashanti Region of Ghana followed the basic principles in their testing practices. The study also sought to discover whether pre-service training in testing contributes to competence in actual

testing practice. Cluster and simple random sampling techniques were adopted to select 265 teachers of Mathematics, Integrated Science and English Language in 26 Senior Secondary Schools for the study. Questionnaire and an observation guide were the instruments used to collect data for the study. The study showed that to a great extent, teachers followed the basic principles in test construction, administration and scoring.

Oduro-Okyireh (2008) further found pre-service instruction in educational measurement to have a positive impact on actual testing practice. Oduro-Okyireh therefore recommended pre-service training in educational measurement and evaluation during training, since competence in assessment is crucial to teacher effectiveness.

In addition, Wiredu (2013) examined the assessment practices of tutors in the nurses' training schools in the Western and Central regions of Ghana. The study sought to find the knowledge of tutors in assessment, the relationship between the numbers of years of teaching on the assessment practices. A descriptive survey, where the whole of the accessible population involved in the study (census) was used. Wiredu (2013) found that the number of years of teaching had a higher influence on teachers' assessment practices.

Wiredu (2013) argued that teaching experience had more influence on planning, item construction, item preparation and test evaluation practices in assessment. Wiredu (2013) therefore concluded that tutors stay to teach in the Nurses' Training Schools for a longer period since the longer the tutors stay to teach, the more likely they are to follow the principles in assessment.

Challenges teachers face in implementing school-based assessment

According to Cheah (2010), the biggest challenges teachers faced in conducting the SBA were knowledge, skills and teacher attitudes. Cheah (2010) recommended formal training in the form of workshops or seminars that would enable teachers to acquire new knowledge to fulfill the objectives of the assessment system.

On the challenges affecting SBA practice, Omorogiuwa and Aibangee (2017) conducted a study that examined factors affecting the effective implementation of school-based assessment. The research adopted survey research design. The study sampled 150 teachers from the population of 876 teachers in 45 Public Junior Secondary Schools in Benin City, Nigeria. A 14-item questionnaire on the factors affecting effective implementation of school-based assessment was used as the instrument for data collection. The study found that teachers' level of awareness, school management's attitude and teachers' classroom management of SBA were the factors considered to have a negative effect on the effective implementation of school-based assessment.

They study further found that overloaded classrooms, heavy teaching workload, insufficient time to carry out SBA, inflation of SBA marks and favouritism to have negative affect the effective implementation of school-based assessment in secondary schools in the Benin metropolis. Similarly, Barley (2013) and Byabato and Kisamo (2014) also found favouritism and marks inflation, workload as a barrier to the implementation of school-based assessment. Omorogiuwa and Aibangee (2017) therefore suggested effective monitoring of the policy and timely in-service training for all teachers.

In addition, Veloo and Md Ali (2016) explored the challenges teachers faced in implementing SBA in Physical Education (PE) within Malaysian schooling system. The study involved 15 secondary day schools in one district in Kedah. A purposively selected 25 teachers were interviewed that lasted for 45 minutes to 1 hour. An adapted ten core questions based on frequently asked questions from the Examination Board, Ministry of Education Malaysia (2011) were used. The findings disclosed that PE teachers faced three major challenges, namely inadequate core knowledge concept and process, poor conditions and inadequate PE assessment facilities and equipment, and inadequate time for PE assessment.

Veloo and Md Ali (2016) again revealed that, inadequate or sometimes poor state of equipment and a situation where the teacher after attending training courses failed to convey clear information to the other teachers really obstruct the operation of SBA. Veloo and Md Ali (2016) observed that, PE teachers were found to have an understanding of SBA, though differences in understandings with regards to methods of implementing SBA.

Similarly, Lukman and Uwadiegwu (2012) examined the challenges of school-based assessment as an innovation in Nigeria educational system. A simple random sampling technique was used to select 20 public primary schools and 10 junior secondary schools for the study. Ten (10) teachers were selected from each of Primary and Junior Secondary Schools making a total of three hundred (300) teachers. The research instrument used for the study was a questionnaire. They found inadequate teacher training, lack of teacher commitment as well as large class size as challenges of school-based assessment. They revealed that the calculated chi-square (x2) 17.97 was

greater than the table value of 16.9190 at .05 with degree of freedom of 9. It implies that teachers' training in assessment technique has an impact on the implementation of SBA.

Lukman and Uwadiegwu (2012) recommend in-service training in test construction and validation for the teachers to ensure the effective implementation of SBA. These findings are in consonant with Emeka, Badmus, Kayode, and Akinsola (as cited in Lukman & Uwadiegwu, 2012) who concluded that poor understanding of assessment concept, scoring and interpretation of test scores, lack of relevant competencies, teachers' commitment and large class size are crucial challenges of effective implementation of SBA. They found that teachers' training in assessment technique had greater influence on the implementation of SBA.

Byabato and Kisamo (2014) also conducted a survey in Tanzania Ordinary Secondary Schools (O-level). The study investigated the implementation of school-based continuous assessment and its implications on the quality of education. Five hundred and forty six (546) O-level teachers from Dares Salaam, Arusha and Zanzibar participated in the study. Convenience sampling technique was used and data were collected using a questionnaire. The study revealed that the implementation of school-based was not properly done. They identified a number of challenges such as lack of teachers' integrity (favouritism and inflation of marks), lack of uniformity in both the assessment tools used and procedures for SBA recording and reporting. They observed that generally, teachers showed little or no in-depth capacity of the assessment practices.

Belay and Tesfaye (2017) investigated the impending challenges of continuous assessment implementation at Dire Dawa University, Ethiopia. Survey research design was employed with a sample of 73 instructors and 284 students. The participants were selected using systematic random sampling method.

The study found that there were significant challenges related with instructors, students, curriculum and institution that impeded SBA implementation at Dire Dawa University. Some of the challenges identified were large class size, instructors' overload, absence of strict guidelines and lack of professional support and training on assessment issues, lack of providing immediate feedback to students, poor record keeping of assessment results, lack of professional support and training as associated challenges of SBA.

Mhishi et al. (2012) conducted a study that looked at whether there was consistency between the national examinations and the SBA results used to enroll pupils. Also the study looked at whether teachers had any formal training in administering SBA.

A survey that used both qualitative and quantitative methods was carried out at three purposively sampled secondary schools. The findings revealed that all the teachers interviewed lacked formal training and skills on SBA.

Teachers' years of teaching and knowledge in school-based assessment

According to Housner and Griffey (as cited in Talib et al., 2014) experienced teachers have more understanding of how and why students succeed and are more able to recognize students' problem solving skills. They

argued that these experienced teachers can readily formulate a more extensive range of likely solutions to issues. In line with this, Talib et al. (2014) in a study looked at knowledge and practices of Malaysian primary teachers. The study with a sample size of 400 randomly selected teachers revealed that teachers who have more than 15 years of teaching experience scored the highest from other group with less teaching experience for SBA knowledge.

Talib et al. (2014) study indicated that teachers, who taught between 0-5 year's mean score was 50.27, and for 6-10 years their mean score was 50.25, while for 11-15 years the mean score was 48.28 whilst those who taught for more than 15 years had the highest mean of 51.01. However, Talib, et al., fails to show whether the differences observed were significant. But looking at the observed mean difference, there are likely to be non-significant differences among the various groupings of teaching experiences on the teachers' knowledge in SBA.

Chew and Muhamad (2017) conducted a study that looked at the readiness of implementation of school-based assessment among the Malay language teachers in National schools. A questionnaire was used as an instrument in the study. The respondents consisted of 110 Malay language teachers in 35 National Schools located in the Klang Valley, Kuala Lumpur. The study revealed a significant relationship between teaching experience and skills in SBA. Thus, the more experienced the Malay language teachers were, the more skills they had in implementing SBA. Similarly, Hashim et al. (2015) found that teachers with adequate knowledge about SBA were those who teach for several years. This means that teachers with more years of experience are more knowledgeable than the less experienced ones.

Moreover, Al-Nouh, Taqi and Abdul-Kareem (2014) investigated primary school teachers' attitudes, knowledge and skills in alternative assessment. The study collected data through questionnaire from 335 randomly selected primary school teachers from six educational zones. Focus group interview was used to collect data from 114 EFL primary school teachers (the same teachers and head teachers who answered the questionnaire) and in addition to document analysis. Eight primary school principals, 16 head teachers were interviewed individually. The study revealed a significant difference in teachers' knowledge and skills in relation to their teaching experience. The number of years in teaching service had an impact on teachers' level of knowledge in assessment.

Teachers' years of teaching and school-based assessment practices

According to Kinyua and Odiemo (2014), teachers with more experience prepared tests which were more valid and reliable. Amedahe (as cited in Anhwere 2009) found that the relationship between the years of teaching experience and the accuracy with which teachers constructed their classroom achievement test was at a moderate level. This means that the more experienced the teacher becomes in teaching, the more accurate the teacher becomes in constructing achievement tests.

Also, Wiredu (2013) in a study revealed that the number of years in teaching has more effect than academic qualification on the overall assessment practice (planning, construction, scoring, and feedback) with the exception of test administration. Wiredu noted that the exception may be due to the fact that during test administration, all the tutors were involved and so tutors learnt from each other during test administration.

In a study by Talib et al. (2014), teachers with more years of teaching experience practiced SBA in their classroom better than the less experienced ones. They revealed that those who taught for 0-5 had mean score of 2.72, from 6 - 10 score 2.71, for those who taught for 11-15 years score was 2.75 whilst those who taught for more than 15 years had the highest score of 2.85. However, it is not clear whether the observed difference was significant or not significant. In my opinion looking at the observed differences in the mean scores there is likelihood that it might not be significant.

Bassey, Akpama, Ayang and Iferi-obeten (2013) found that, the level of best assessment practices exhibited by the basic education teachers is not significantly influenced by the teachers' characteristics such teachers' teaching experience. Also Anhwere (2009), in a study revealed that there was not any significant difference between tutors who taught between 1 -3 years and above three years in the teacher training colleges when constructing test items. Thus teaching experience did not significantly influence the teachers' best assessment practices. According to Amedahe and Etsey (as cited in Anhwere 2009), the reasons could be lack of skills and competency in the assessment practices.

Teachers' school-based assessment knowledge between those who have had any in-service training and those without in-service training

The successful implementation of assessment hinges upon the quality of the teacher. It is impossible to successfully implement change in an education system if serious investments are not made in the professional development of teachers (Reynek et al., 2010). According to Yusoff, Ahmad, Mansor, Johari, Othman and Hassan (2016), SBA in-service training

contributes to higher teachers' level of knowledge with regard to school-based assessment practice. Lukman and Uwadiegwu (2012) opined that teachers' training in assessment technique has a great influence on the implementation of SBA. Also, Veloo et al. (2015) indicated that, teachers who followed training sessions had better ways of conducting SBA. Therefore, they concluded that, the success of SBA depends on teachers' knowledge and readiness to implement SBA.

Anhwere (2009) and Plake, Impara and Frager (as cited in Etsey, 2003) revealed that teachers who completed a course or in-service training programme in measurement did better than those without such background in assessment knowledge. Also, Kinyua and Odiemo (2014) revealed that teachers who are trained on test construction and analysis prepared tests that were more valid and reliable. They argued that, teachers who are trained and educated in testing tend to have a better understanding and practice when it comes to testing than those without training. This implies that those who had in-service training in assessment might have been exposed to better assessment practices than those who did not have in-service training in assessment.

Ismadiah (as cited in Veloo et al., 2015) revealed that teachers' knowledge and understanding of SBA implementation procedures is highly dependent on teacher attendance in seminars, courses and briefings. Again, teachers who followed training sessions had better knowledge on assessment and administration of SBA. Begum and Farooqui (2008) noted that untrained teachers had poor understanding of the principle of SBA which led to their being unable to practice it effectively. They argued that if those teachers tried

to implement SBA, it might not be implemented properly as it is intended. Again, Awoniyi (2016) found that majority of the respondents (63%) suggested in-service training in SBA as a way of improving teachers understanding of SBA. For instance, Norani and Saifulazri (as cited in Veloo et al., 2015) indicated that most teachers admitted they were not willing to conduct SBA due to lack of training.

However, Talib et al. (2014) in a study found that in-service training in assessment have contributed too little competency to teachers' classroom assessment knowledge. They explained that most training failed to prepare teachers for the complexity involved in implementing the SBA. According to Reynek et al. (2010), what mostly contributes this situation is that participants often experienced the following when it comes to training; trainings that do not offer the participants enough chance to learn, training that are done in a 'chop chop way', insufficient time for training, less experience facilitators and training lacking practical lessons.

Talib et al. (2014) further revealed that teachers who did not attend SBA training had the highest mean score of 50.14, for SBA knowledge than those who had attended SBA training (mean score of 49.94). This means that SBA training did not have an impact. Talib et al. (2014) therefore suggested continued training in the form of briefings, sessions or workshops.

However, Yusoff et al. (2016) conducted a study that employed the Kirkpatrick Evaluation Model to assess the reaction of in-service teacher training programme on SBA and its contribution towards teacher's learning (knowledge, skills and attitudes). The study employed quantitative survey that used self-developed questionnaires and involved 1200 primary school teachers

who had attended the in-service training programme. The respondents were selected randomly from the state of Selangor, Malaysia. Kirkpatrick evaluation model has four stages, namely the assessments of reaction, learning (knowledge, skills and attitudes), behavioural and outcomes. The study discussed the first two stages of assessments that are reaction and learning (knowledge, skills and attitudes).

The study revealed that, the mean score of the assessment on reaction as a whole was at a high level. This means that SBA in-service training programme contributes to teachers' knowledge in SBA. The findings suggest that school managers should use the SBA teacher training programme with strategic improvements to improve teachers' knowledge, skills and attitudes to better improve the implementation of SBA programme.

Chapter Summary

In general, the literature reviewed disclosed that teachers' knowledge in SBA in Asian countries like Malaysia was high and this was attributed to the support and mentoring services by the Malaysian Examination Syndicate and the training for most teachers, and teachers' experience.

However, studies done in Ghana and other Africa countries like Malawi, Nigeria and Ethiopia revealed that teachers' level of knowledge in SBA was low and was attributed to poor qualification of teachers and insufficient training.

The literature reviewed also indicated that teachers' practices of SBA was low, inconsistent or at average level. The low SBA practices could be due to teachers' failure to receive training in assessment practices.

The challenges teachers faced in practicing SBA, include lack of assessment materials, large class size, lack of training for teachers on SBA, truancy and absenteeism, copying of one another's assignment and class work, favouritism, and inputting of fake results by some teachers.

It was again evident that teachers with more years of experience were more knowledgeable in SBA. This could be as a result of training in assessment. Teachers with many years of teaching practice SBA in their classroom better than the less experienced ones. The literature revealed that teachers' knowledge and understanding of SBA implementation procedures is highly dependent on teacher attendance in training and seminars. However, it was also revealed that in-service training in assessment contributed too little to teachers' classroom assessment knowledge.

It is expected that the findings from this study would contribute to knowledge and practice, and at the same time encourage policy makers and stakeholders to improve teacher preparatory programmes for successful SBA implementation in Ghana.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter describes how the study was conducted. The study assessed teachers' knowledge and practices of school-based assessment at the primary schools in Savelugu Municipality in the Northern Region of Ghana. The chapter also looked at and described the methodology used in this study. The chapter described the research design, the study area, population, sample and sampling procedure, data collection instruments, pilot testing, data collection procedures, validity and reliability of the instrument, data processing and analysis and chapter summary.

Research Design

The descriptive research design was used to collect data on teachers' knowledge and practices of SBA. Descriptive survey research design allows the gathering of comprehensive information concerning the primary school teachers' knowledge and practices of SBA with the intent of determining the current conditions and practices of the SBA (Koul, 1996). According to Osuala (2001) descriptive surveys are versatile and practical, as it helps the researcher to identify the current status of a phenomenon such as primary school teachers' knowledge and practices of SBA.

Descriptive survey involves collecting data in order to test hypothesis or answer research questions concerning the current status of the subjects of

the study (Amedahe & Asamoah-Gyimah, 2017). It also determines and reports the way things are (Gay, 1992) and always appropriate when a researcher attempts to describe some aspect of a population by selecting unbiased samples who are asked to complete questionnaires (Fraenkel & Wallen, 2003).

This research design is appropriate because, the study intended to describe the current situation at the primary school level in terms of teachers' knowledge and practices of SBA in the classroom. Also, given the time constraints and other resources available, survey research design was deemed to be appropriate as it has an advantage of measuring current attitudes or practices, and provides information in a short amount of time (Creswell, 2012). Again, it has the potential to provide a lot of information on teachers' knowledge and practices of school-based assessment from a large sample of individuals. It is therefore expected that findings from this study will be generalized to the population of teachers in Savelugu Municipality.

However, descriptive survey is susceptible or easily influenced to distortions through the introduction of biases in the measuring instruments like errors due to the use of questionnaires or interviews which might distort research findings (Amedahe & Asamoah- Gyimah, 2017). Again, according to Murphy (as cited in Attom, 2017), respondents are often not truthful as they feel the need to tell the researcher what they think the researcher wants to hear and also participants may refuse to provide responses they view to be too personal. Despite the inherent disadvantage, it was deemed the most appropriate design for this study.

Study Area

Walford (2001) argues that researchers often settle on a study site to which they can easily gain convenient and ready access. The site should be a place where the researcher can build trusting relations with the participants in the study, and where data quality and credibility of the study are reasonably assured (Marshall & Rossmann, 1999). This study was conducted in the Savelugu municipality of the Northern region of Ghana. The District is located at the northern part of the Northern Region of Ghana. It shares boundaries with West Mamprusi to the North, Nanton to the East, Kumbungu to the West and Sangnarigu Municipal Assembly to the South. Savelugu is the capital town of the Savelugu Municipality.

The population of Savelugu-Nanton District, according to the 2010 Population and Housing Census, was 139,283 representing 5.1 percent of the region's total population. It covers a total land area of about 2022.6 square kilometres with a population density of 68.9 persons per sq. km. The altitude of the district ranges between 400 and 800 feet above sea level.

Savelugu Municipality was chosen because research works on SBA in this district is limited or non-existing. Also I am teaching in the district and can easily have access to teachers.

Population

Polit and Hungler (1996) define a population as the entire aggregation of cases that meet a designated set of criteria. Amedahe and Asamoah-Gyimah (2017) explain that, population refers to the target group about which a researcher is interested in gaining information and drawing conclusions. The

population of the study was targeted at teachers from primary schools in the Savelugu Municipality.

Amedahe and Asamoah-Gyimah further explained that, the targeted population is the aggregate of cases about which the researcher would like to make generalizations. The population for study is 686 primary school teachers from 65 primary schools in the Savelugu Municipality (Savelugu municipal Education Office, 2019). The selection of primary school teachers in the Savelugu Municipality for the study was due to studies on SBA in Senior High Schools and Junior High Schools in Ghana with little or no information on SBA at the primary school level. Studies conducted on SBA also seem not to include primary schools in the Savelugu Municipality. Therefore conducting the study at the primary school in the Savelugu municipality was to provide more information on the issues of the implementation of SBA with respect to teachers' knowledge and practices.

Sample and Sampling Procedure

Sample consists of a carefully selected subset of the units that comprise the population (Amedahe & Asamoah-Gyimah, 2017). It is a subset of a population to which the researcher wants to generalize the results (Sarantakos, 1998). According to Robson (2002), it is rare to be able to contact the whole of a population in a survey, which is where sampling comes in. The sample size of 270 teachers was randomly selected to participate in the study. This is based on Krejcie and Morgan (2011) table of sample size determination.

Fraenkel and Wallen (2003) argued that a minimum sample size of one hundred (100) was enough to give a meaningful generalization. Therefore, a

sample of two hundred and seventy (270) primary teachers was good for a meaningful generalization. This also represents 39% of the accessible population. According to Amedahe and Asamoah-Gyimah (2017), in most quantitative studies, a sample size of 5% to 20% of the population size is sufficient for generalization purposes. Therefore a sample size of 270 for a population of 686 was more than 20% of the total population and therefore was enough for generalization.

Sampling is the process or technique of selecting a suitable smaller size of a population or a representative part of a population for the purpose of determining parameters or characteristics of the whole population (Kombo & Tromp, 2006). Amedahe and Asamoah-Gyimah (2017) define sampling as a 'process of selecting a portion of the population to represent the entire population' (p.100). According to Cohen, Manion and Morrison (2007), the quality of a piece of research stands or falls not only by the appropriateness of methodology and instrumentation but also by the suitability of the sampling strategy that has been adopted.

The sampling procedure adopted for the study was simple random sampling specifically random numbers method. According to Amedahe and Asamoah-Gyimah (2017), simple random sampling affords all units of the target population an equal chance of being selected. It is appropriate when a population of study is similar in characteristics of interest (Amedahe & Asamoah-Gyimah, 2017).

Simple random sample was chosen because it limits the probability of choosing a bias sample. Thus every primary school teacher in the Municipality has an equal chance of being selected. To come out with a representative

sample of teachers in the district, I obtained the names of all the 686 primary schools teachers in the Savelugu Municipality and ordered them accordingly. With this sampling frame of 686, an appropriate table of random numbers was selected (000-999) where the table is entered randomly. I started at point 021 on the table and proceed horizontally by three-step using the appropriate number of digits (3-digit for population of 686). Anytime I encountered numbers falling within the sampling frame that specific element (respondent) is selected and recorded while those 3-digit number which is not in the population with this number is rejected. I continued the process until the required number of 270 teachers was achieved. This sampling method is only appropriate when a complete list of the population is known or available.

Data Collection Instrument

The instrument used to gather data for this study was questionnaire. The choice of questionnaire was based on the assertion of Cohen et al. (2007) that it is useful for collecting survey information, providing structured numerical data and being able to be administered without the presence of the researcher.

The items on the questionnaire were prepared based on the purposes of the study to elicit the needed information after reviewing the related literature on teachers' knowledge and practices of SBA. The items on the Likert-type scale were scored ranging from four (4) for Strongly Agree to one (1) for Strongly Disagree and four (4) for Always to one (1) for Never for positive items and reversed scored for negative or wrong facts item. The Likert type scale was chosen because it has the advantage of being relatively easy to develop and also sensitive to differentiation of responses.

The questionnaire was in four sections and made up of 44 items. The items were closed-ended. The questionnaire elicited teachers' response on their background characteristics, their knowledge level on SBA, the extent to which they practice school-based assessment, and the associated challenges of practicing SBA.

On the Section A of the questionnaire are two items which requested information on the background of the respondents, that is, the number of years in teaching service and SBA training they attended. Section B consisted of 15 items which sought to elicit information on teachers' knowledge in school-based assessment. In this section of the questionnaire, statements with serial numbers (3-14 and 16-17) depicted correct facts about school-based assessment while statement with serial number (15) depicted wrong facts about school-based assessment. Therefore item 15 was reversed coded where Strongly Disagree took high score where whilst Strongly Agree took the least score. All items were positively scored in this section with the exception of item 15. On the right side of each item is a row of boxes and participants were required to respond by ticking Strongly Agree-SA, Agree-A, Disagree-D and Strongly Disagree-SD to the statements on the left side.

Section C consisted of 15 items with numbers ranging from 18-32 which elicited information on teachers' practices of school-based assessment. On the right side of each item is a row of boxes, participants were required to respond to level of practice of SBA in their teaching with Always, Very Often, Sometimes and Never to each of the statements by ticking. All items were positively scored in this section.

Section D consisted of 12 items which elicited information on the challenges of school-based assessment practices. On the right side of each item is a row of boxes and participants were required to respond by indicating the extent to which they Strongly Agree-SA, Agree-A, Disagree-D and Strongly Disagree-SD to the statements in the level of challenges they faced in practicing SBA.

I developed the questionnaire after reviewing the related literature on knowledge and practices of school-based assessment. My supervisors who are experts in educational measurement established the validity (content and face validity) of the questionnaire. The instrument was also pilot tested to identify errors on the instrument and corrections were made.

Pre-testing

To test the instrument and identify any potential for refinement, I conducted a pre-test in a place that has the same characteristics to the Savelugu Municipality for convenience. The research instrument was pre-tested using a group of thirty (60) primary school teachers who were randomly selected from Tolon District in the Northern Region of Ghana to fill the questionnaire as a pre-testing of the instrument. The district was chosen because the pilot test needed respondents who were not to be part of the main study but has similar characteristics as the main respondents. Thus pre-testing was due to the similarities borne out by the selected District that was used for the main study. Teachers in the two districts therefore have similar characteristics in SBA practice.

This pretest was carried to identify issues that might demand modification on the questionnaire before distributing them to the main

research participants (Cohen et al., 2007). The pretest was necessary to identify ambiguities, difficult items, and areas for improvement in the design.

According to Teijlingen and Hundley (2011) in administering the instruments to pilot subjects in exactly the same way as it will be administered in the main study assists the researcher to ask the subjects for feedback. They stated that it also affords the researcher the opportunity to judge whether each item gave an adequate range of responses and to re-word or rescale any item that was not answered as expected. After the pilot test, errors identified on the instrument were corrected and the final instrument was made. For instance, item 14 of the questionnaire from section B was changed from "school based assessment provides 50% of class work and 50% of examination for assessment" to "school based assessment provides 50% of class work and 50% of end-of-term for assessment". This helped to increase validity, reliability and practicability of the questionnaire (Morrison as cited in Cohen et al., 2007).

Reliability

The reliability of a research instrument is concerned with the extent to which the research instrument yields the same results on a repeated trial (Carmines & Zeller, 1979). According to Joppe (2000), reliability is the extent to which results are consistent over time and are an accurate representation of the total population under study in such a way that if the results of the study can be reproduced under a similar methodology, then the research instrument adopted for the study is considered to be reliable.

The reliability of the questionnaire was checked using Cronbach's Alpha. According to Cronbach (as cited in Ebel & Frisbie, 1991), co-efficient alpha can provide a reliability estimate for a measure composed of items of

varying point values such as essays or attitude scales that provide responses such as ―strongly agree and ―strongly disagree with intermediate response options. Therefore, it was appropriate to used Cronbach's Alpha as the responses to the various items on the instrument comprises of varying point values such as strongly agree to strongly disagree and from the always to never.

Prior to data collection, the instrument was pre-tested and the reliability index of the questionnaire was estimated from Cronbach coefficient. The Cronbach alpha reliability coefficient for 'knowledge' section in the questionnaire was .72, for 'practices' section was .76 and 'challenges' section was .72. However, the Cronbach's alpha coefficient for the whole instrument was .67. According to Ary, Jacobs & Razavieh (2002) reliability index ≥.50 is accepted in education research.

Validity

Validity refers to the soundness or appropriateness of your interpretations and uses of students' assessment results (Nitko, 2001). According to Gall, Borg and Gall (1996), instrument validation is improved through expert judgement. Therefore, the validity of the instrument was established through a review by my supervisors, who have expert knowledge of instruments validation. They reviewed the relevance of the instrument to the study's purpose, the clarity of the individual items in the instrument, the wording of the items, and the length of the questionnaire.

At the same time, the questionnaire was given to a teacher in English language to check its language. For instance, ambiguities like clarity of expression and overloaded questions that could have given unintended results

were corrected. Remarks and suggestions for improvement were noted and changes made. The recommendations from these experts helped to improve the validity of the instrument.

Ethical Considerations

Researchers have an obligation to conduct their study and report their findings without hurting research participants (Keyton, 2001). Therefore, the study sought ethical clearance from Institutional Review Board in the University of Cape Coast to enable me obtain permission from the various schools where the study would be carried out (see Appendix B). Also, permission from the District Director of Education for consideration and approval for the research was sought (see Appendix A).

In the research, informed consent was sought from all the research participants. Participants were given the choice to be part of the research after some clarifications concerning the study and were not forced to take part in the research. Therefore, all participants were informed and are free to agree or refuse to participate in the study.

I conducted the study in a manner that protected the anonymity of the respondents. The essence of anonymity as Cohen et al. (2007) explained is that information provided by participants shall in no way revealed their identity. To protect their anonymity, respondents were not to identify themselves by names. In addition, the cover letter to the survey stated that their responses would be kept confidential and the demographic information will not be revealed. Furthermore, the questionnaire was submitted and collected in a plain envelop without any indication to the school name. All participants were

supplied with my contact information in order to allow them to ask questions about the survey or to inquire about the research findings.

I therefore addressed all ethical concerns which included; Inform consent, Anonymity, Confidentiality. All information that was taken from different sources was acknowledged through both in- text citations and reference.

Data Collection Procedures

Data was collected from randomly selected teachers from primary schools in the Savelugu municipality. This was after I applied for ethical clearance from institutional review board, University of Cape Coast (see Appendix A). Also an introductory letter was sought and collected from the Department of Education and Psychology that aided me to access the appropriate institutions and schools where data were collected (see Appendix B). I also trained an assistant for the data collection.

On the first week starting from March 11 and 12, 2019, my assistant and I visited primary schools where questionnaire were given to selected teachers. On 18th and 19th March 2019 the following week, we went back to the various schools for the questionnaire. Despite the one week interval given to the teachers some teachers still were not able to complete the questionnaire and were given additional two days. In all, two weeks were used to collect the data. Hundred percent return rate was recorded.

Data Processing and Analysis

After data collection, each questionnaire was checked for completeness, edited and coded. The reason for editing was to check whether

respondents had followed directions correctly, and whether all items had been responded to.

Section A is on background information of the respondents. These responses were analyzed using frequency and percentage.

Research Question One:

What is the level of teachers' knowledge in school-based assessment in the Savelugu Municipality?

Research question one sought to find out from respondents their knowledge level on school-based assessment. The responses of participants were measured using fifteen statements and the activities were on a four-point Likert scale as, 'Strongly disagree' (1), 'Disagree' (2), 'Agree' (3), and 'Strongly agree' (4). The overall score for each item and the overall mean were computed. The items to this research question were analyzed using means and standard deviations of the response on the knowledge of school-based assessment. The test value used was 2.5.

Research Question Two:

What is the nature of teacher practices in school-based assessment in the Savelugu Municipality?

Research question two sought to find out from respondents how they practiced school-based assessment. The responses of participants were measured using fifteen statements and the activities were on a four-point Likert scale as, 'Never' (1), 'Sometimes' (2), 'Very often' (3), and 'Always' (4). The overall score for each item and the overall mean were computed. The responses to the items to this research question were analyzed using means

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and standard deviations on the assessment practices of teachers in school-based assessment. The test value used was 2.5.

Research Question Three:

What are the challenges that primary teachers face in implementing the school-based assessment?

Research question three sought to find out from respondents challenges they experienced in the practice of school-based assessment. The responses of participants were obtained using twelve statements and the activities were on a four-point Likert scale as, 'Strongly disagree' (1), 'Disagree' (2), 'Agree' (3), and 'Strongly agree' (4). The responses for the items for this research question were analyzed using means, standard deviation. The test value used was 2.5.

Hypothesis One:

There is no statistically significant years of teaching experience difference in teachers' knowledge of school-based assessment.

Hypothesis one sought to test whether a significant difference exists among the three groups of teaching experience (below 6 years, from 6 – 10 years and above 10 years) in terms of SBA knowledge. The responses for the items for this hypothesis were analyzed using one-way ANOVA.

Hypothesis Two:

There is no statistically significant years of teaching experience difference in teachers' school-based assessment practices.

Hypothesis two tested whether a significant difference exists among the categories of teaching experience in terms of SBA practice. The responses for the items for this hypothesis were analyzed using one-way ANOVA.

Hypothesis Three:

There is no statistically significant difference between teachers who have had any in-service training in school-based assessment and those who have not had any in-service training in SBA in their knowledge in school-based assessment.

Hypothesis three tested whether a significant difference exists between teachers who have had in-service training in SBA and those who have not had any in-service training in SBA in their knowledge in SBA. The responses for the items for this hypothesis were analyzed using independent t-test.

Chapter Summary

This chapter highlighted the research design, study area, population, sample and sampling procedure, data collection instruments, pilot testing, data collection procedures, validity and reliability of the instrument, data processing and analysis.

Primary school teachers in the Savelugu Municipality were the population for this study. The simple random sampling was used to sample participants for the study. Frequencies distribution, means, standard deviation, independent t-test and one-way analysis of variance were used for the analysis of data on research questions and hypotheses.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The purpose of the study was to investigate primary school teachers' knowledge and practices of school-based assessment in the Savelugu Municipality. This chapter deals with the presentation and analysis of the data that I collected from the participants from schools that participated in the study. The data were analyzed and discussed according to the research questions. The participants of the study were teachers.

Data were analyzed using frequency distributions, means, standard deviations, independent t-test and one-way ANOVA. The first part of this chapter describes the demographic characteristics of respondents. In the second part, the research findings are presented according to the research questions and hypotheses posed on teachers' knowledge and practices. The analysis was done based on the following research questions and research hypotheses. Also, the discussion was done based on the research questions and research hypotheses.

Research Questions

1. What is the level of teachers' knowledge in school-based assessment in the Savelugu Municipality?

2. What is the nature of teacher practices in school-based assessment in the Savelugu Municipality?

3. What are the challenges that primary teachers face in implementing the school-based assessment in the Savelugu Municipality?

Research Hypotheses

1. H_o: There is no statistically significant difference in teachers' knowledge in school-based assessment in relation to their years of teaching.

   H_1: There is statistically significant difference in teachers' knowledge in school-based assessment in relation to their years of teaching.

2. H_o: There is no statistically significant difference in teachers' assessment practices in school-based assessment in relation to their years of teaching.

   H_1: There is statistically significant difference in teachers' assessment practices in school-based assessment in relation to their years of teaching.

3. H_o: There is no statistically significant difference between teachers who have had any in-service training in school-based assessment and those who have not had any in-service training in school-based assessment in their knowledge in school-based assessment.

   H_1: There is a statistically significant difference between teachers who have had any in-service training in school-based assessment and those who have not had any in-service training in school-based assessment in their knowledge in school-based assessment.

Analysis of Background Data

This section of the chapter presents the analysis of the background data of the respondents.

Distribution of respondents by years of teaching

Table 2 presents the distribution of respondents by years of teaching.

Table 2: *Distribution of Respondents by Years of Teaching*

Number of years	Frequency	Percent
Below 6	140	51.9
6-10	72	26.7
Above 10	58	21.5
Total	270	100

Source: Field survey (2019)

From Table 2, the majority 140 (51.9%) of the participants have taught for less than six (6) years, 72 teachers representing 26.7% have taught for 6 to 10 years while 58 (21.5%) have taught for above 10 years. The result therefore indicates that majority of the teachers who participated in the study taught for less than 6 years.

Distribution of respondents by workshop attended

Table 3 presents the distribution of respondent by attendance at school-based assessment workshop.

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Table 3: *Distribution of Respondents by Attendance at School-Based Assessment Workshop*

	Frequency	Percent
Yes	178	66
No	92	34
Total	270	100

Source: Field survey (2019)

Table 3 shows that, out of the 270 participants, as many as 178 representing 66% indicated that they attended workshop on SBA while 92 participants representing 34% said they did not attend any workshop on SBA. This implies that many teachers had the opportunity to attend SBA training.

Analysis of Research Questions and Hypotheses

Research Question One

What is the level of teachers' knowledge in school-based assessment in the Savelugu Municipality?

Research question one sought to find out from participants their knowledge in SBA. To gather evidence for this, the selected teachers were made to rate their knowledge level on fifteen items (items 3 to 17) using Strongly Agree, Agree, Disagree and Strongly Disagrees. The scale was scored as (Strongly Agree =4, Agree =3, Disagree= 2 and Strongly Disagree =1 and Reversed scored for item 15).

The criterion value (CV) of 2.50 was established for the scale. To obtain the criterion value (CV=2.50), the scores were added together and divided by the number scale (4+3+2+1= 10/4=2.50). These categorizations

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were done based on the recommendation of Pallant (2001) regarding the interpretation of descriptive statistics such as mean and standard deviation.

To understand the mean scores, items/statements on knowledge in SBA that scored a mean of 0.00 to 2.49 were regarded as low knowledge in SBA. However, those items/statements on knowledge in SBA that scored a mean from 2.50 to 4.00 were regarded as high knowledge in SBA. Table 4 presents the descriptive results.

Table 4: *Descriptive Results on the Level of Teachers' Knowledge in SBA in the Savelugu Municipality*

Level of teachers' knowledge in SBA	Mean	SD	MR	Level of knowledge
School-based assessment is carried out at periodic intervals for the purpose of improving the overall performance of students and of the teaching and learning process.	3.64	.552	1st	High
School-based assessment seeks for feedback from the students based on what the teachers have taught.	3.49	.661	2nd	High
School-based assessment system involves both a formative and summative assessment system.	3.47	.631	3rd	High
School-based assessment is based on class tests, class exercises and projects.	3.40	.703	4th	High
School-based assessment requires taking decisions on students based on all records gathered in the course of a programme.	3.29	.655	5th	High
Teachers are involved at all stages of the school-based assessment process	3.29	.756	5th	High
School-based assessment involves making decisions on student performance at the end of any course or programme.	3.22	.795	6th	High

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Table 4 continue

I have sufficient knowledge about the use of teaching aids to facilitate student understanding about the lesson content through school-based assessment.	3.20	.639	7th	High
School-based assessment refers to an assessment system which is carried out at a pre-determined time interval	3.11	.692	8th	High
School-based assessment standardized the practice of internal school-based assessment in all schools.	3.06	.631	9th	High
I have the knowledge to use various strategies in school-based assessment.	3.04	.715	10th	High
School based assessment provides 50% of class work and 50% End-of Term exam.	2.98	.890	11th	High
School-based assessment involves looking at students in totality.	2.96	.830	12th	High
School-based assessment provides reduced assessment tasks for each school subjects	2.50	.835	13th	Average
School-based assessment is planned by the entire school (**reverse coded**).	2.19	.840	14th	Low
MM/SD	3.12	.719		

Source: Field Data (2019)   Cut-off mean =2.50   (n=270)
Key-**MR**=Mean Ranking, **n**=Sample Size, **MM**= Mean of Means

The results in Table 4 indicated that, generally, primary school teachers in the Savelugu Municipality are reported to have adequate knowledge in SBA. This was evident after the group mean (M=3.12, SD=.719) was shown to be greater than the cut-off value (2.50).

The following are some of the areas that primary school teachers in the Savelugu Municipality have high knowledge in SBA. Primary school teachers in the Savelugu Municipality were knowledgeable about the fact that "school-

based assessment is carried out at periodic intervals for the purpose of improving the overall performance of students and of the teaching and learning process". (M=3.64, SD=.552). Primary school teachers in the Savelugu Municipality were knowledgeable about the fact that "School-based assessment seeks for feedback from the students based on what the teachers have taught" (M=3.49, SD=.661). Primary school teachers in the Savelugu Municipality were knowledgeable about the idea that "School-based assessment system involves both a formative and summative assessment system" (M=3.47, SD=.631). Similarly, primary school teachers in the Savelugu Municipality School-based agreed that "School-based assessment is based on class tests, class exercises and projects" (M=3.40, SD=.703). Most primary school teachers in the Savelugu Municipality were of the view that "School-based assessment requires taking decisions on students based on all records gathered in the course of a programme" (M=3.29, SD=.655). Majority of the primary school teachers in the Savelugu Municipality confirmed that "Teachers are involved at all stages of the school-based assessment process" (M=3.29, SD=.756). Majority of the primary school teachers in the Savelugu Municipality confirmed that "School-based assessment involves making decisions on student performance at the end of any course or programme" (M=3.22, SD=.795). Primary school teachers in the Savelugu Municipality indicated "I have sufficient knowledge about the use of teaching aids to facilitate student understanding about the lesson content through school-based assessment" (M=3.20, SD=.639). Most primary school teachers in the Savelugu Municipality asserted that "School-based assessment refers to an assessment system which is carried out at a pre-determined time interval"

(M=3.11, SD=.692). Primary school teachers in the Savelugu Municipality asserted that "School-based assessment standardized the practice of internal assessment in all schools" (M=3.06, SD=.631). Furthermore, most primary school teachers in the Savelugu Municipality reported that "I have the knowledge to use various strategies in school-based assessment" (M=3.04, SD=.715). Similarly, most primary school teachers in the Savelugu Municipality were aware that "School based assessment provides 50% of class work and 50% end-of-term exam" (M=2.98, SD=.890). More of the primary school teachers in the Savelugu Municipality agreed that "School-based assessment involves looking at students in totality" (M=2.96, SD=.830). Primary school teachers in the Savelugu Municipality poses average knowledge that "School-based assessment provides reduced assessment tasks for each school subjects" (M=2.50, SD=.835). Primary school teachers in the Savelugu Municipality did not know that "School-based assessment is not planned by the entire school" (M=2.19, SD=.840).

Research Question Two

What is the nature of teacher practices in school-based assessment in the Savelugu Municipality?

Research question two sought to find out the nature of teacher practices in SBA.

The randomly selected teachers were made to rate their practices in SBA using Never, Sometimes, Very Often and Always. The question was answered using responses from items 18 to 32. The scale was scored as Never =1, Sometimes =2, Very Often= 3 and Always=4. All the items were positively scored. The criterion value (CV) of 2.50 was established for the

scale. To obtain the criterion value (CV=2.50), the scores were added together and divided by the number scale (4+3+2+1= 10/4=2.50).

To understand the mean scores, items/statements on practice of SBA that scored a mean of 0.00 to 2.49 were regarded as low practice of SBA. However, those items/statements on practice of SBA that scored mean from 2.50 to 4.00 were regarded as high practice of SBA. Table 5 presents the descriptive results.

Table 5: *Descriptive Results on Teachers Practice of SBA in the Savelugu Municipality*

Practices of SBA	M	SD	MR	Level of practice
In school-based assessment practice, I award marks in relation to the effort and performance of each group.	3.46	.687	1st	High
During group exercise I go round the groups as they work and offer help as may be needed without giving correct answers.	3.34	.792	2nd	High
In practicing school-based assessment, I make sure all the appropriate group exercises are administered.	3.07	.815	3rd	High
I develop test items based on objectives that are very critical in each term's work.	3.03	.855	4th	High
I develop test items based on objectives that consist of a series of activities.	2.94	.827	5th	High
In practicing school-based assessment, I make sure there are group projects.	2.91	.840	6th	High
In practicing school-based assessment, I make sure classroom instruction makes use of real life and unfamiliar projects as illustrations to encourage pupils to apply their knowledge to problems of varying complexities.	2.91	.785	7th	High

Table 5 continue

In practicing school-based assessment, I make sure I follow its procedures and time of administration.	2.90	.821	8th	High
I analyze the problems pupils faced on the items and then organize a remedial session for the class.	2.89	.879	9th	High
I develop test items based on objectives that need creativity on the part of the pupil for learning performance.	2.88	.874	10th	High
In practicing school-based assessment, I make sure project tasks are set with the knowledge and competence from other subjects.	2.80	.847	11th	High
In practicing school-based assessment, I make sure there are individual projects.	2.64	.872	12th	High
In SBA practice, I give my students two tests, one group exercise and a project work in a term.	2.61	.863	13th	High
I complete the administration of school-based assessment by the end of the eleventh week.	2.60	.926	14th	High
I ask the various groups of pupils to give themselves a mark and grade for the work they have done at the end of the group exercise.	2.05	.961	15th	Low
MM/SD	2.87	.835		

Source: Field Data (2019)   Cut-off mean =2.50   (n=270)
Key-M= Mean Value, SD =Standard Deviation, MR=Mean Ranking, n=Sample Size, MM= Mean of Means

From the Table 5, majority of primary school teachers in the Savelugu Municipality reported to practicing SBA. This was evident after the group mean (M=2.87, SD=.835) was found to be greater than the cut-off value (CV=2.50). The following are some of the areas that primary school teachers in the Savelugu Municipality practiced SBA. Majority of the primary school teachers in the Savelugu Municipality indicated that in school-based assessment practice, they always awarded marks in relation to the effort and

performance of each group (M=3.46, SD=.687). Majority of the primary school teachers in the Savelugu Municipality specified that during group exercise they very often went round the groups as they worked and offered help as may be needed without giving correct answers (M=3.34, SD=.792). Furthermore, most primary school teachers in the Savelugu Municipality specified that in practicing school-based assessment, they very often made sure all the appropriate group exercises were administered (M=3.07, SD=.815). In another evidence, most primary school teachers in the Savelugu Municipality stated they very often developed test items based on objectives that were very critical in each term's work (M=3.03, SD=.855). Most primary school teachers in the Savelugu Municipality pointed out they often developed test items based on objectives that consisted of a series of activities (M=2.94, SD=.827).

The results further showed that in practicing school-based assessment, most primary school teachers in the Savelugu Municipality very often made sure there were group projects (M=2.91, SD=.840). Most primary school teachers in the Savelugu Municipality pointed out that in practicing school-based assessment, they very often made sure classroom instruction were used on real life and unfamiliar projects as illustrations to encourage pupils to apply their knowledge to problems of varying complexities (M=2.91, SD=.785). In another breath, most primary school teachers in the Savelugu Municipality pointed out that in practicing school-based assessment, they very often made sure they followed its procedures and time of administration (M=2.90, SD=.821). In another practice, most primary school teachers in the Savelugu Municipality pointed that they very often analyzed the problems pupils faced

on the items and then organized a remedial session for the class ($\underline{M}$=2.89, $\underline{SD}$=.879). Furthermore, most primary school teachers in the Savelugu Municipality pointed they very often developed test items based on objectives that need creativity on the part of the pupil for learning performance ($\underline{M}$=2.88, $\underline{SD}$=.874). In practicing school-based assessment, most primary school teachers in the Savelugu Municipality agreed that they very often made sure project tasks were set with the knowledge and competence from other subjects ($\underline{M}$=2.80, $\underline{SD}$=.847). In practicing school-based assessment, most primary school teachers in the Savelugu Municipality agreed that they very often made sure there were individual projects ($\underline{M}$=2.64, $\underline{SD}$=.872). In SBA practice, most primary school teachers in the Savelugu Municipality agreed they very often gave their students two tests, one group exercise and a project work in a term ($\underline{M}$=2.61, $\underline{SD}$=.863). Finally on the practice of SBA, most primary school teachers in the Savelugu Municipality agreed they often very completed the administration of school-based assessment by the end of the eleventh week ($\underline{M}$=2.60, $\underline{SD}$=.926). Largely, most primary school teachers in the Savelugu Municipality reported to not really in practice ask the various groups of pupils to give themselves a mark and grade for the work they have done at the end of the group exercise ($\underline{M}$=2.05, $\underline{SD}$=.961).

Research Question Three

What are the challenges that primary teachers face in implementing the school-based assessment in the Savelugu Municipality?

To accomplish the purpose of research question three, the teachers were made to rate the challenges they faced in implementing SBA in the Savelugu Municipality. To measure the challenges, the selected primary

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school teachers rated the challenges they faced in practicing SBA using Strongly Agree, Agree, Disagree and Strongly Disagrees. The question was answered using responses from items 33 to 44 on the questionnaire. The scale was scored as (Strongly Agree =4, Agree =3, Disagree= 2 and Strongly Disagree =1). The items on questionnaire were positively scored.

The criterion value (CV) of 2.50 was established for the scale. To obtain the criterion value (CV=2.50), the scores were added together and divided by the number scale (4+3+2+1= 10/4=2.50). To understand the mean scores, items/statements on challenges that scored a mean of 0.00 to 2.49 were regarded as not challenges. Those items/statements on the challenges that had mean scores from 2.50 to 4.00 were regarded as challenges. Table 6 presents the descriptive results.

Table 6: *Descriptive Results on Challenges that Basic School Teachers Face in Implementing the SBA in the Savelugu Municipality*

Challenges of SBA	M	SD	MR	Remarks
Student copying one another's assignment and class work.	3.01	.802	1st	A Challenge
Lack of motivation from school authorities.	2.91	.853	2nd	A Challenge
Truancy and irregular pupil attendance.	2.88	.851	3rd	A Challenge
Lack of training for teachers on school-based assessment.	2.84	.852	4th	A Challenge
Inadequate time allotted on the timetable for various subjects does not permit the use of school-based assessment effectively.	2.83	.860	5th	A Challenge
Non-availability of school-based assessment guidelines.	2.75	.854	6th	A Challenge

Table 6 continue

Lack of support from the school authorities in terms of logistics and facilities.	2.73	.802	7th	A Challenge
Inadequate time to prepare in terms of gathering information and materials to be used for school-based assessment.	2.72	.796	8th	A Challenge
Large number of students prevents me from implementing school-based assessment.	2.70	.933	9th	A Challenge
There is poor record keeping on school-based assessment.	2.59	.852	10th	A Challenge
The school-based assessment format takes all my time.	2.19	.718	11th	Not A Challenge
I am not faithful with allocation of marks to my students	1.85	.829	12th	Not A Challenge
MM/SD	2.66	.833		

Source: Field Data (2019)   Cut-off mean =2.50   (n=270)
Key- MR=Mean Ranking, n=Sample Size, MM= Mean of Means

From Table 6, the results showed that on a large scale, primary school teachers in the Savelugu Municipality are reported to confront with a lot of challenges in their quest to practice SBA. This was apparent after the group mean (M=2.66, SD=.833) was found to be greater than the cut-off value (CV=2.50).

However, the challenges of primary school teachers in the Savelugu Municipality varied in magnitude. The following are the challenges and they have been arranged in terms of their magnitude: The first challenge was that majority of the primary school teachers in the Savelugu Municipality agreed that student copied one another's assignment and class work (M=3.01, SD=.802). Lack of motivation from school authorities was also identified as a

challenge (M=2.91, SD=.853). Truancy and irregular pupil attendance was the third challenge (M=2.88, SD=.851). Lack of training for teachers on school-based assessment was also identified as the fourth challenge (M=2.84, SD=.852). Inadequate time allotted on the timetable for various subjects did not permit the use of school-based assessment effectively was identified as the fifth challenge (M=2.83, SD=.860). Non-availability of school-based assessment guidelines was also identified as the sixth challenge (M=2.75, SD=.854). Lack of support from the school authorities in terms of logistics and facilities was the seventh challenge (M=2.73, SD=.802). On the eighth challenge, inadequate time to prepare in terms of gathering information and materials to be used for school-based assessment was identified (M=2.72, SD=.796). Large number of students prevents me from implementing school-based assessment was the ninth challenge (M=2.70, SD=.933). Poor record keeping on school-based assessment was another challenge among primary school teachers in the Savelugu Municipality (M=2.59, SD=.852).

Research Hypothesis One

H_o: There is no statistically significant difference in teachers' knowledge in school-based assessment in relation to their years of teaching.

H_1:   There is statistically significant difference in teachers' knowledge in school-based assessment in relation to their years of teaching.

At an alpha level of .05 for all statistical tests, hypothesis one was tested to find out whether years of teaching experience (YTE) of primary teachers could differ with teachers' level of knowledge of SBA. The data was made up of independent variable [years of teaching experience (YTE) which is categorical] and dependent variable (teachers' level of knowledge of SBA

which was continuous). The selected teachers were made to rate their knowledge level on fifteen items (items 3 to 17) using Strongly Agree, Agree, Disagree and Strongly Disagrees. The scale was scored as (Strongly Agree =4, Agree =3, Disagree= 2 and Strongly Disagree =1.

The one-way analysis of variance (ANOVA) was conducted to determine whether there are any statistical significant differences among the means of independent variables that is years of teaching experience with teachers' level of knowledge of SBA of primary school teachers in the Savelugu Municipality. The independent variable, teaching experience included three levels: teachers teaching Below 6 years, from 6 – 10 years and Above 10 years. The dependent variable was teachers' level knowledge obtained by the different teaching experience. ANOVA assumptions of normality and homogeneity of variances of the data distribution were checked. Table 7 presents the normality results.

Table 7: *Normality Test*

Number of years in teaching service	Kolmogorov-Smirnov[a]		
	Statistic	Df	Sig.
Below 6 years	.092	140	.006
6 – 10 years	.076	72	.200[*]
Above 10 years	.114	58	.058

Source: Field Survey (2019)

From Table 7, the result for the teaching experience from "6-10years" and "Above 10 years" group on the dependent variable "teachers' knowledge" was normally distributed. This is because the Sig. value of the Kolmogorov-Smirnov Test (use for sample size >50) is greater than .05. However, for "Below 6 years" on the dependent variable "teachers' knowledge" was not normally distributed. This is because the Sig. value of the Kolmogorov-

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Table 9: *Descriptive Statistics of the Levels of Teaching*

Category	N	Mean	Std. Deviation
6 – 10 years	72	47.22	4.078
Below 6 years	140	46.87	3.813
Above 10 years	58	46.31	4.401
Total	270	46.84	3.993

Source: Field Data (2019)

The descriptive statistics as in Table 9 shows that teachers with 6 – 10 years of teaching experience (M= 47.22, SD= 4.078) have more knowledge. This was followed by those who have taught below 6 years (M=46.87, SD= 3.813). The descriptive statistics again indicated that those who have taught from 10 years and above have the least knowledge in SBA (M= 46.31, SD= 4.401). Nevertheless, independent one-way ANOVA was conducted to gain more statistical evidence on whether the difference observed on their knowledge was significant. Table 10 presents summary of One-way Analysis of Variance (ANOVA) results.

Table 10: *Summary of One-way Analysis of Variance (ANOVA) Result*

Sources	Sum of Squares	Df	Mean Square	F	Sig.	Remarks
Between Groups	26.923	2	13.461	.843	.431	No Diff.
Within Groups	4262.544	267	15.965			
Total	4289.467	269				

Source: Field Data (2019)

A one-way Analysis of variance (ANOVA) was conducted to compare mean scores of the study variable (years of teaching experience and teachers' knowledge on SBA). From Table 10, the results showed that there was no

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statistically significant difference among the teachers' years of teaching experience and teachers' knowledge in SBA, F (2, 267) =.843, p = .431, (2-tailed). This gives statistical evidence that there was no difference in mean scores of the tested variable. Thus, the testing of the hypothesis revealed that a non-significant difference existed among the teachers' years of teaching experience and teachers' knowledge in SBA.

Hence, the results of the one-way ANOVA supported the null hypothesis that, ''There is no statistically significant years of teaching experience difference in teachers' knowledge of SBA''.

Research Hypothesis Two

H_o: There is no statistically significant difference in teachers' assessment practices in school-based assessment in relation to their years of teaching.

H_1:   There is no statistically significant difference in teachers' assessment practices in school-based assessment in relation to their years of teaching.

At an alpha level of .05 for all statistical tests, hypothesis two was tested to find out whether years of teaching experience (YTE) of primary teachers in the Savelugu Municipality could differ in their practice of SBA. To achieve this, one-way between-groups analysis of variance (ANOVA) was deemed appropriate for the analysis. To obtain the scores for the analysis, the responses on teachers' practice of SBA were transformed into a single variable.

The data on questionnaire was made up of independent variable [years of teaching experience (YTE) which is categorical data] and dependent

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variable (teachers' practice of SBA) which was measured on continuous data. The one-way analysis of variance (ANOVA) was conducted to determine whether there are any statistical significant differences among the means of the independent groups (years of teaching experience, YTE) and the dependent variable (teachers' practice of SBA). The independent variable, teaching experience included three levels: teachers teaching Below 6 years, from 6 – 10 years and Above 10 years. The dependent variable was scores on teachers' practices. ANOVA assumptions of normality and homogeneity of variances of the data distribution were checked. Table 11 presents the normality results.

Table 11: *Normality Test Results*

Number of years in teaching service	Kolmogorov-Smirnov[a]		
	Statistic	Df	Sig.
Below 6 years	.063	140	.200
6 – 10 years	.079	72	.200
Above 10 years	.069	58	.200

Source: Field Survey (2019)

From Table 11, Kolmogorov-Smirnov test of normality (use for sample size >50) indicated that the dependent variable (teachers' practices) was normally distributed among teaching experiences. For teachers who have taught below 6 years (p = .200), for teachers who have taught from 6 – 10 years (p= .200), and those who have taught for 10 years and above (p = .200). From the Kolmogorov-Smirnov results, all the levels produced values greater than the p-value of .05 signifying that the data distribution was normal.

Figure 2, 3 & 4 also show the graphical normality of the test.

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Normal Q-Q Plot of TP

for arq1= Below 6 years
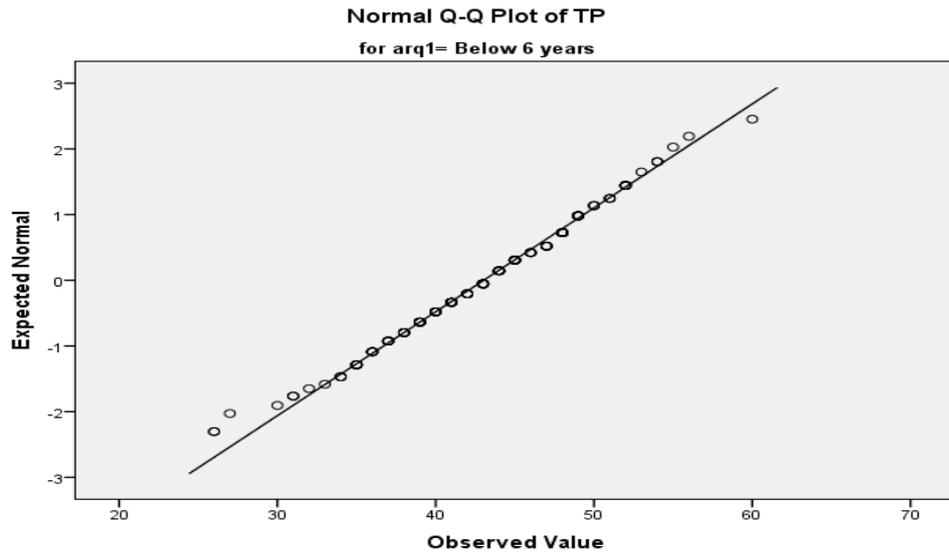
Figure 2: Normality test of teachers practice of SBA for those who have

taught below 6 years

Normal Q-Q Plot of TP

for arq1= Below 6 years
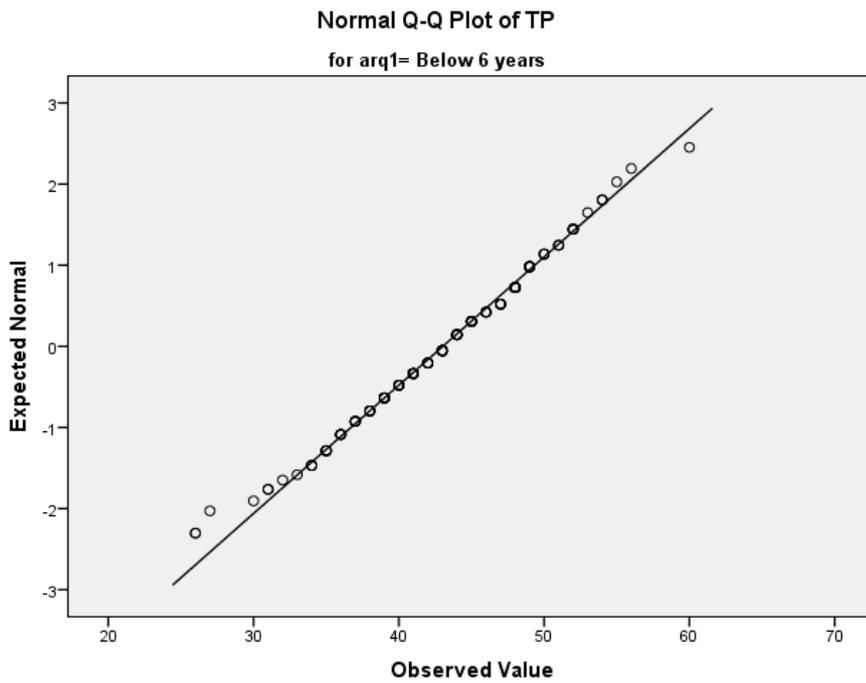
Figure 3: Normality test of teachers practice of SBA for those who have

taught from 6 -10 years

Normal Q-Q Plot of TP

for arq1= Above 10 years
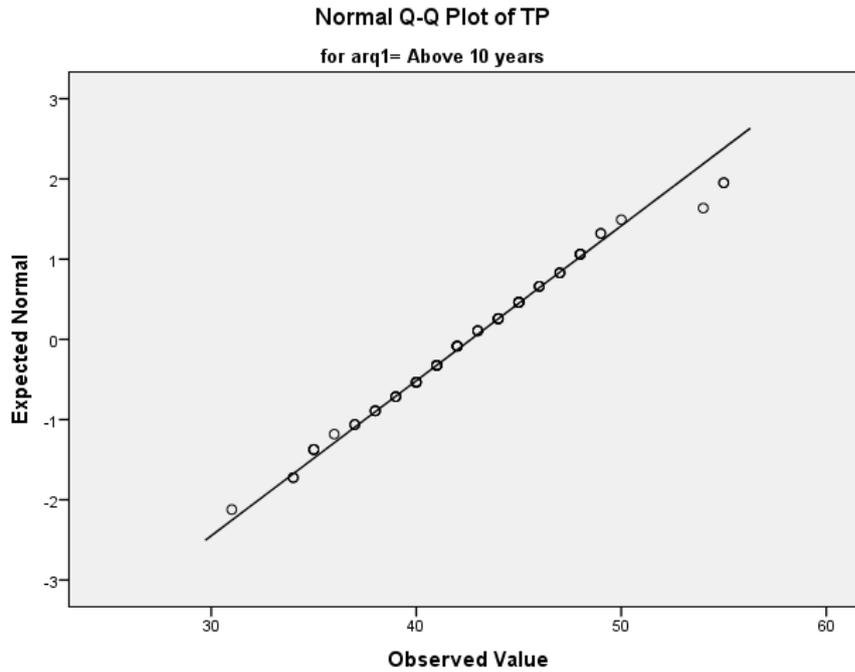
Figure 4: Normality test of teachers practice of SBA for those who
have taught 10 years and above

Having tested for the normality, I progressed to check whether the variances
were homogeneous. The results are presented in Table 12.

Table 12: *Results of Homogeneity of Variances Test*

Levene Statistic	df1	df2	Sig.	Remarks
1.317	2	267	.270	Not significant

Source: Field Data (2019)

From the Table 12, the sig. value of the Levene statistic is .270,
therefore, variances are assumed equal. Therefore, performing of ANOVA
test was permissible. Table 13 presents the descriptive statistics.

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Table 13: *Descriptive Statistics of the Categories of Teaching*

Categories	N	Mean	Std. Deviation
Below 6 years	72	43.27	6.155
6 – 10 years	140	43.02	6.321
Above 10 years	58	42.67	5.175
Total	270	43.01	6.03056

Source: Field Data (2019)

The descriptive statistics in Table 13 demonstrates that, the means were very close to each other. For teachers taught below 6 years (M= 43.27, SD= 6.155) practice SBA more. This was followed by those who have taught 6-10 years (M=43.02, SD= 6.321). The descriptive statistics indicated that those who have taught from 10 years and above least practiced SBA (M= 42.67, SD= 5.175).

Nevertheless, the independent one-way analysis of variance (ANOVA) was conducted to establish more statistical evidence on whether the observed difference was by chance. The ANOVA result is presented in Table 14.

Table 14: *Summary of One-way ANOVA Results for Teachers' Assessment Practices in SBA in Relation to Their Years of Teaching Experience*

Sources	Sum of Squares	Df	Mean Square	F	Sig.	Remarks
Between Groups	11.801	2	5.901	.161	.851	No Diff.
Within Groups	9771.106	267	36.596			
Total	9782.907	269				

Source: Field Data (2019)

From the one-way ANOVA in Table 14, the results show that there was no statistically significant difference in the teachers practice and years of teaching experience, $F(2, 267) = .161$, $p = .851$, (2-tailed).

This gives statistical evidence to the effect that there were no significant differences in mean scores of the tested variable. Hence the null hypothesis which states that, "There is no statistically significant years of teaching experience difference in teachers' SBA practices" was not rejected. Since the differences were non-significant, post-hoc test or follow up test was not applicable.

Research Hypothesis Three

H_o: There is no statistically significant difference between teachers who have had any in-service training in school-based assessment and those who have not had any in-service training in school-based assessment in their knowledge in school-based assessment.

H_1:   There is a statistically significant difference between teachers who have had any in-service training in school-based assessment and those who have not had any in-service training in school-based assessment in their knowledge in school-based assessment.

At an alpha level of .05 for all statistical tests, hypothesis three was tested to find out whether difference exist between the knowledge of those who have had any in-service training in SBA and those who have not had any in-service training in SBA. To test this hypothesis, independent sample t-test was deemed appropriate for the analysis. This is because, it sought to find out whether statistically significant differences exist between the means in two unrelated groups. The independent variables are knowledge of those who had

any in-service training in SBA and those who have not had in-service training in SBA. Table 15 presents the results of homogeneity of variance of the test.

Table 15: *Results of Homogeneity of Variances Test*

Levene Statistic	df1	t-value	Sig.
.819	268	1.635	.103

Source: Field Data (2019)

From Table 15, the sig. value of the Levene statistic is .103 which is greater than .05. Therefore, variances are assumed equal. Consequently, performing of independent t-test was permissible. Table 16 presents results on independent t-test comparing difference between those who have had any in-service training and those who have not had training in SBA.

Table 16: *Independent Samples t-Test Comparing Difference Between Those who Have had any In-service Training and Those who Have not had Training in SBA*

Category	N	M	SD	SEM	Cal.t-value	Df	p-value
YES	178	47.12	4.14	.310	1.63	268	.103
No	92	46.29	3.63	.379			
Total	270						

Source: Field Data (2019)

From Table 16, the results of the descriptive statistics on the independent sample t-test, portrays that there were slight differences in means scores of the independent variables (those who have any in-service training and those who have not had training in SBA). From the descriptive results, those who have had any in-service training (M = 47.12, SD = 4.14) were

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found to have more knowledge than those who have not had training in SBA (M=46.29, SD=3.63).

However, from Table 16, the results of independent sample t-test showed p-value of .103 indicating that there were no significant differences between those who have had any in-service training (M = 47.12, SD = 4.14) and those who have not had training in SBA (M=46.29, SD=3.63); t(268) =1.63, p = .103, (2-tailed). Therefore, based on the result above the null hypothesis is not rejected. This finding implied that there is no statistically significant differences in the level of knowledge between those have had in-service training in SBA and those have not had in-service training in SBA. Thus the level of knowledge in SBA between those have had in-service training in SBA and those have not had in-service training in SBA is the same or similar.

Discussion of Research Findings

In this section, the findings are discussed in relation to:

1. Teachers' knowledge in school-based assessment

2. Nature of teacher practices in school- based assessment

3. Challenges teachers face when they practice school-based assessment

4. Teachers' years of teaching and knowledge in school-based assessment

5. Teachers' years of teaching and school-based assessment practice

6. Teachers' school-based assessment knowledge between those who have had any in-service training and those without in-service training

Teachers' knowledge in school-based assessment

The findings of the study related to teachers' level knowledge in SBA indicated that teachers level of knowledge in SBA was general high (See Table 4). These findings confirm the work of Samsudin et al. (2016) who found out that primary schools teachers level understanding and readiness towards implementing SBA was high. They clarify that the high understanding was due to the support services and the training sessions most teachers attended.

The finding further confirms the work of Hashim et al. (2015) who found that teachers had adequate knowledge about SBA and are aware of the best practices in the implementation of SBA. Also, Veloo et al. (2015) study agreed that majority of teachers are knowledgeable about the SBA. This was obvious when the overall mean (3.27) of their study showed teachers' level knowledge in SBA. Likewise, the current study revealed an almost the same overall mean of (3.12). Apparently, Veloo et al. (2015) study agreed with the current study that most teachers have the knowledge about SBA. The reason why teachers' level knowledge in SBA in the current study was high might probably be that information dissemination about SBA implementation by the Ministry of Education to teachers was done successfully (Chew & Muhamad, 2017).

Again, Othman et al. (2013) study revealed that teachers as respondents in their study statistically agreed that they understood SBA implementation in Primary School Standard Curriculum in Malaysia schools. This is because the study revealed an overall mean score of teachers' knowledge in SBA to be 3.39. In addition, Mansor et al. (2013) in a study

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concluded that, primary school teachers have the basic understanding of the characteristics of SBA though all teachers in this study admit that there were glitches or 'teething troubles,' mostly in preparing the instruments.

Similarly, results on the last item (item 15) on teachers' knowledge (see Table 5) showed that most primary school teachers in the Savelugu Municipality were not aware that school-based assessment is not planned by the entire school (M=2.19, SD=.840). This finding confirms the work of Awoniyi (2016) who found that about 18.2 percent of respondents in the study were found to have a wrong understanding that SBA was indeed planned by the entire school.

Contrary to these findings, Md-Ali et al. (2015) in a study that examined the implementation of SBA in Malaysia and the issues related to its early years of implementation, which included teachers understanding of SBA and their readiness to implement SBA in their respective schools revealed that teachers lacked knowledge about SBA. They observed that most teachers were uncertain about whether SBA included only formative assessment or it covers both formative and summative assessments. However, this assertion is contrary to this current study where teachers were aware that SBA included both formative and summative assessment. The reasons for Md-Ali et al. (2015) findings of low teachers' knowledge might be probable attributed to its early stages of its implementation in Malaysia where there were not opportunities for teachers to learn the 'new' assessment.

In addition Talib et al. (2014) study indicated that teachers still had insufficient SBA knowledge. They argued that, the assessment of students without any contribution from the classroom teacher who directs the learning

activities are incomplete. This is because, teachers are supposed to be involved at all stages in the SBA process and their guidance and input in student work especially students' project is very important.

The current finding of the study is also inconsistent with the finding of Awoniyi (2016) who found in the Cape Coast Metropolis among Senior High School mathematics teachers that they did not understand SBA guidelines. The study further revealed that these teachers still practiced the old 'continuous assessment' scheme. However, the contrary findings of Awoniyi to these findings might be explained that, primary school teachers have more skills in assessment while SHS teachers exhibit poor preparedness, incompetence and ignorance in assessments (Oyedeji, 2016). Also, Nugba (2012) found that teachers were not following the laid down procedures in assessing students in SBA. Also this might be attributed to its early years of implementation in Ghana.

A study by Kaira (2002) was also found to be incongruous to the current study. The study revealed that as many as sixty-five percent of teachers expressed the feeling that they did not have enough knowledge and skills to carry out school-based assessment. Adi (as cited in Mansor et al., 2013) pointed out that most Malaysian teachers were far from ready to implement the SBA in their classroom. Kaira felt that teachers were yet to understand the concept of SBA and thus lacked the know-how to develop the appropriate assessment tasks, which would further lead to the validity of the school-based assessment.

Another study that is inconsistent to the current findings is Hamzah et al. (2015) who found that many teachers did not know and were not skilled in

assessing their students. Also, Fook and Sidhu (2006) study on knowledge and best practices of Malaysian ESL (English as a Second Language) teachers in conducting SBA found that, as many as 70% of ESL teachers admitted they were not exposed to SBA. Though the study reported that, most of the respondents had acquired adequate knowledge in constructing their own tests, one third of the respondents however admitted that they often applied "cut and paste" method.

Nature of teachers' practices in school-based assessment

The findings of the study revealed that, primary school teachers' practices of SBA are generally high (See Table 5). The findings support the study by Oduro-Okyireh (2008) aimed at finding out whether Senior Secondary School teachers in the Ashanti Region of Ghana followed the basic principles in their testing practices. The study revealed that to a great extent, teachers followed the basic principles in test construction, administration and scoring.

However, the current findings contradict the work of Awoniyi (2016) when she found that mathematics teachers in Senior High Schools in the Cape Coast Metropolis did not understand SBA guidelines and so they still practiced the old 'continuous assessment' scheme. Similarly, Nugba (2012) found that some schools and teachers were not following the SBA procedures in assessing student in in Obuasi.

In Malaysia, a study that was carried out to assess the knowledge and practices of primary teachers in SBA by Talib et al. in 2014 also contradicts the findings of the current study. The outcome of the study showed that teachers' were inconsistent in SBA practices. According to Veloo et al.

(2016), classroom assessments conducted by teachers were limited and were done just to satisfy the SBA requirement and not to identify students' learning development or plan teaching. Similarly, Dean (as cited in Wiredu, 2013) observed that most teachers only assessed in the way they were assessed when they were in school. As a result they did not care to fellow the recommended procedure in assessing students.

Moreover, the findings that most primary school teachers in the Savelugu Municipality sometimes did not really in practice ask the various groups of pupils to give themselves a mark and grade for the work they had done at the end of the group exercise did not follow the CRDD requirement that teachers allow students to award themselves mark after group exercises as this perceived marks though not final, helps the pupils to be conscious of their responsibility for working hard at problems and also motivate them to learn. This could be that teachers were not aware that pupils are allowed to give themselves marks or grade at the end of group exercise.   .

Similarly, research works done by Samsudin et al. (2016), and Veloo et al. (2016) revealed that teachers' practice of SBA was at a moderate/average level. It therefore fails to confirm the findings in the study that primary school teachers' practices on school-based assessment are generally high.

The possible explanation as to why primary school teachers' SBA practices of SBA were high in the current study might be due to effective training, motivation or supervision from school authorities.

Challenges teachers face when they practice school-based assessment

The findings of the study revealed that generally, teachers faced challenges when practicing SBA in the classroom (See Table 6). The study

revealed challenges faced by teachers as (a) Student copying one another's assignment and class work, (b) lack of motivation from school authorities, (c) truancy and irregular pupil attendance, (d) lack of training for teachers on school-based assessment, (e) inadequate time allotted on the timetable for various subjects, (f) non-availability of SBA guidelines. There are a number of studies that support the findings of the current study.

Awoniyi (2016) found that mathematics teachers in Senior High Schools in the Cape Coast Metropolis faced challenges such as lack of assessment materials, inadequate record keeping facilities, truancy and absenteeism, copying of one another's assignment and class work. Also, favouritism, inputting of fake results by some teachers because of their closeness to the students or student's parents, insufficient time for test construction, insufficient instruction time and lack of skills in assessment practices were some of the challenges identified.

Similarly, the findings corroborated Nugba (2012) study that looked at the effectiveness, impact and challenges of the implementation of SBA in Obuasi Municipality. The study identified inadequate equipment and facilities, non-availability of school-based assessment guidelines, lack of training for teachers on school-based assessment and lack of support from GES in terms of materials as challenges the teachers faced. Nugba observed that, teachers were not trained before the implementation of SBA and that unavailability of equipment and facilities was affecting the implementation of the practical aspect of SBA.

The findings further confirm Lukman and Uwadiegwu (2012) study which examined the challenges of school-based assessment as an innovation in

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Nigeria educational system. The study found inadequate teacher training, lack of teacher commitment as well as large class size as challenges of school-based assessment. Also, Belay and Tesfaye (2017) found large class size, instructors' overload, absence of strict guidelines and lack of professional support and training on assessment issues, lack of providing immediate feedback to students, poor record keeping of assessment results, lack of professional support and training as associated challenges of continuous assessment.

Veloo and Md Ali (2016) explored the challenges teachers faced in implementing SBA in Physical Education (PE) within Malaysian schooling system. They found inadequate knowledge of SBA, poor conditions and inadequate PE assessment facilities and equipment, and inadequate time for PE assessment. Moreover, Mhishi et al. (2012) study identified lack of formal training and skills on SBA as the main challenges of SBA implementation.

The current findings revealed that school-based assessment format takes a lot of time of teachers. This does support the work of Omorogiuwa and Aibangee (2017) who found that teachers had insufficient time to carry out SBA. Again, Veloo and Md-Ali (2016) identified inadequate time for PE assessment as one of three major challenges teachers faced in implementing SBA in Physical Education within Malaysian schooling system.

Not faithful with the allocation of marks to students was identified as not a challenge to most primary school teachers in the Savelugu Municipality. However, according to Awoniyi (2016), Barley (2013), Byabato and Kisamo (2014), and Omorogiuwa and Aibangee (2017) favouritism and marks inflation was identified as a barrier to the implementation of school-based

assessment. Nair et al. (2014) attributed it to teachers having soft heart towards their favourite students and others usually have transparency issues in terms of allotting groups to the students whilst other teachers because of competition with other schools tend to inflate marks of their students.

The possible reason favouritism and inflation of marks were not identified as a challenge in the current study might be explained that teachers in Savelugu Municipality were well aware on the need for classroom assessment not to be based on non-achievement factors.

Teachers' years of teaching and knowledge in school-based assessment

The finding of the hypothesis one revealed that, there was no significant difference among the three groups of teaching experience in terms of SBA knowledge (See Table 10). The findings of Talib et al. (2014) study is not consistent with the current study. They found that teachers who have more than 15 years of teaching experience scored the highest from other group with less teaching experience for SBA knowledge.

This current finding also contradicts that of Chew and Muhamad (2017) who found a significant relationship between teaching experience and skills in SBA. Thus, the more experienced the Malay language teachers were, the more skills they had in implementing SBA. Again, Hashim et al. (2015) revealed that teachers who had adequate knowledge about SBA were those teachers who taught for several years.

Similarly, another study which fails to confirm the current study is that of Al-Nouh et al. (2014). The study revealed a significant difference in teachers' knowledge and skills in relation to their teaching experience in alternative assessment. This means that teachers with more years of

experience are more knowledgeable than the less experienced ones in SBA.

The reason there was no significant difference among the three groups of teaching experience in terms of SBA knowledge in the current study could be that all teachers attended the same in-service training or same experts took all teachers through training.

Teachers' years of teaching and school-based assessment practices

The finding of hypothesis two indicated that there was no significant difference among the three group of teaching experience in terms of SBA practices (See Table 14). Thus differences in the teachers' practices is the same or similar for the different year grouping.

The findings of the study were in line with Bassey et al. (2013) who found that the level of best assessment practices exhibited by the basic education teachers is not significantly influenced by the teachers' characteristics such teachers' teaching experience. This therefore means that the number of years in teaching service experience did not influence the teachers' assessment practices.

Contrary, Talib et al. (2014) found that teachers with more years of teaching experience practiced SBA in their classroom better than the less experienced ones. Kinyua and Odiemo (2014) and Magno (2003) corroborated Talib et al study when they asserted that teachers with more experience prepared tests which were more valid and reliable.

Wiredu's (2013) study revealed that the number of years of teaching had a greater influence on the overall assessment practice of a tutor. The study further found that teaching experience had more influence on planning, item construction, item preparation and test evaluation practices in assessment.

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Wiredu (2013) therefore concluded that that tutors stayed and taught for a longer period because the longer the tutors stay to teach, the more likely they were to follow the principles in assessment.

The reason there was no significant difference among the three group of teaching experience in terms of SBA practices in the current study could be that during SBA administration, all the teachers are involved and so teachers learnt from each other or teachers were taken through similar training, and therefore, differences in their scores cannot be attributable to their experience.

Teachers' school-based assessment knowledge between those who have had any in-service training and those without in-service training

Result of hypothesis three indicated that there was no significant difference in knowledge between those who has attended in-service training and those without in-service training (See Table 16). Thus the level of knowledge in SBA between those have had in-service training in SBA and those have not had in-service training in SBA is the same or similar.

The findings of this study support the study of Talib et al. (2014) who found that in-service training in assessment have contributed too little competency to teachers' classroom assessment knowledge. Talib et al. (2014) study found that for SBA training, 70.3% of teachers had attended SBA training but the result showed that 50.14, the highest mean score for SBA knowledge were scored by teachers without SBA training. The mean score for teachers that already attended SBA training was as low as 49.94. They speculated that the SBA training did not meet the required objective of training.

This may not be surprising to me as a practitioner because I observed that in the training workshops attended most facilitators appeared unprepared which sometimes added little to teachers' knowledge. Talib et al. (2014) attributed the non-significant difference to the reason that most training failed to prepare teachers for the complexity involved in implementing the SBA.

According to Reynek et al. (2010) insufficient time for training, non-experienced facilitators and training lacking practical lessons are the reasons mostly accounted for the less effects of in-service training. Most teachers complained that most at times non-experienced facilitators who lacked training skills were mostly in change of training making it boring. This might be the possible reasons why no differences were observed in the current study.

However, the findings contradict that of Lukman and Uwadiegwu (2012) who found that teachers' training in assessment technique had greater influence on the implementation of SBA.

Similarly, Veloo et al. (2015) found that teachers who followed training sessions had better ways of conducting SBA. Also, Ismadiah (as cited in Veloo et al., 2015) in a study argued that teachers' knowledge and readiness of SBA implementation procedures were highly dependent on teachers' attendance in seminars, courses and briefings.

Yusoff et al. (2016) revealed that SBA in-service training contributes to higher teachers' level of knowledge with regard to school-based assessment practice. The study revealed that the score mean of the assessment on reaction (knowledge, skills and attitudes) as a whole was at a high level. This means that SBA in-service training programme contributed to teachers' level of knowledge in SBA.

Anhwere (2009) study reported a statistically significant difference between tutors who had in-service training in assessment and those who had no in-service training in assessment in the teacher training colleges. Anhwere (2009) recommended that regular in-service training in testing practices be organized for teacher training college tutors by appropriate authorities.

The reason there was no significant difference in knowledge between those who has attended in-service training and those without in-service training in the current study might be probably because the SBA training did not meet the required objective of training, insufficient of time for training, facilitators were not experts or the training was boring. Thus those who attended in-service training in SBA were not exposed to good SBA training. This might be the reason most teachers do not like attending training workshops because they see no impact of the training on their knowledge.

Chapter Summary

The chapter discussed the findings of the study. Three researched questions and three hypotheses were analyzed and discussed. From the research question one, the study found that primary school teachers in the Savelugu Municipality were knowledgeable in school-based assessment.

From research question two, the study found that primary school teachers' practices of school-based assessment were high. Also, from research question three, the study found that students copying one another's assignment and class work, lack of motivation from school authorities, truancy and irregular pupil attendance, lack of training for teachers on SBA and non-availability of SBA guidelines were challenges of SBA.

On the hypothesis one, the result of one-way analysis of variance (ANOVA) indicated that there was no statistically significant difference in teachers' knowledge of SBA relation to their years of teaching experience. Similarly, from the hypothesis two, the result of one-way analysis of variance (ANOVA) revealed non-significant difference within the three categories of teaching experience in terms of SBA practices.

Finally, on the hypothesis three, the result of independent t-test found no significant difference between those who had in-service training and those who have not had training in SBA.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview

The study sought to investigate teachers' knowledge and practices of school-based assessment in the Savelugu Municipality of Northern Ghana. Specifically, the study aimed at finding out primary school teachers' level of knowledge in SBA in the Savelugu Municipality, nature of primary school teachers' practices in SBA, and challenges primary school teachers in Savelugu Municipality faced in implementing SBA. Also the study sought to find out whether teachers' years of teaching has an impact on the level of their knowledge in SBA, whether teachers years of teaching has an impact on their practices of SBA, and whether there is significant difference between the level of knowledge between teachers who attend in-service training and those who had not have the opportunity to attend in-service training on SBA.

The study was conducted in the Savelugu Municipality of Northern Ghana. Primary school teachers in Savelugu Municipality were used for the study. Simple random sampling technique was used to select the teachers' for the study. The descriptive survey design was adopted for the study. A sample of 270 respondents was used for the study. A 44-item questionnaire was the instrument used for data collection. Frequencies, percentages, means, standard deviation, independent t-test and ANOVA were the statistical tools used.

Key Findings

The key findings from the study:

1. Primary school teachers were found to have adequate knowledge in SBA.

2. Primary school teachers confirmed to practice SBA.

3. Primary school teachers in the Savelugu Municipality are confronted with challenges in their quest to practice SBA.

4. There was no statistically significant difference among the three groups of teachers' years of teaching (Below 6 years, 6 – 10 years and Above 10 years) on teachers' knowledge in SBA.

5. There was no statistically significant difference among the three groups of teachers' years of teaching (Below 6 years, 6 – 10 years and Above 10 years) on teachers' practice of SBA.

6. There was no statistically significant difference in knowledge between teachers who have had any in-service training in SBA and those who have not had in-service training in SBA.

Conclusions

The study examined teachers' knowledge and practices of school-based assessment in Savelugu Municipality of the Northern Region of Ghana. Primary school teachers were found to have adequate knowledge about SBA. It could therefore, be concluded that, to a great extent, teachers in the Savelugu Municipality of the Northern Region of Ghana know the basic features of school-based assessment.

However, though most of teachers indicated that they had knowledge and practice SBA, they experienced a lot of challenges in practicing SBA. The

challenges that they agreed impeded their practices include; student copying one another's assignment and class work, lack of motivation from school authorities, truancy and irregular pupil attendance, lack of training for teachers on school-based assessment, inadequate time allotted on the timetable for school-based assessment activities, non-availability of SBA guidelines. This probable might be explained that teachers had the needed skills, competence and attitude to deal with matters and processes that they were facing in the implementing of SBA.

The results of the study further indicated that teachers' knowledge in SBA was not influenced by the teachers' years of teaching. It could be concluded, therefore, that the number of years of teaching did not guarantee that one will have knowledge in SBA. Also revealed was that, teachers' SBA practices was not influenced by the number of years in teaching service. Thus the numbers of years in teaching did have little or no impact on the SBA practice.

Finally, there was no significant difference in knowledge between teachers who attended SBA training and teachers who did not attend SBA training. Thus the differences between those who attended SBA in-service training and those who did attend SBA in-service training is similar or the same. This could, therefore, be concluded that SBA in-service training had little or no impact on teachers' knowledge in SBA. This could probable be due to motivation and supervision from school authorities.

Recommendations

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

1. Ghana Education Service in the Savelugu Municipality should provide all schools with the adequate SBA guidelines. This will serve as a guide and references document for teachers to conduct SBA effectively.

2. The management of the schools should provide great assistance in a form of motivation and adequate facilities for teachers in order to implement SBA.

3. Classroom teachers should educate pupils on dangers of examination malpractice to check a situation where students copy from one another assignment. This is because such behaviour tends to affect the validity of the SBA results and does not give accurate picture of the performance of the individual child.

4. School staff should engage with PTA through meetings and workshops for parents to enable them know the need for their wards to attend school regularly and stay in the school. This will reduce truancy and irregular pupil attendance to school.

5. National Teaching Council should consider adjusting the teaching time table in order to make adequate instructional time for various subject SBA activities.

Suggestions for Further Research

Considering the scope and limitations of this study, I suggest that further research be conducted into the following areas:

1. A replication of this study to take into consideration, a larger sample size. This may provide a more extensive view on teachers' knowledge and practices of SBA in order to accept or refute the findings of the study, and generalize them for the whole of the country.

2. The study relied on self-reporting as an instrument for the data collection. Therefore future studies on the problem should add interview and/or observation so that participants can be probed further.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST

DEPARTMENT OF EDUCATION AND PSYCHOLOGY
SCHOOL-BASED ASSESSMENT QUESTIONNAIRE FOR

TEACHERS

Dear Respondent,

I would be very grateful if you could find time to complete this questionnaire to assist me and as a way of playing your own professional role in this research. The purpose is to obtain information for a study that investigates **teachers' knowledge in School-based assessment and the extent to which teachers are practicing School-based assessment**.

Your full participation will help make informed decisions about the **School-based assessment**. It would therefore be appreciated if you could provide responses to **all** items on the questionnaire, and do that **honestly**. You are assured of complete **confidentiality** and **anonymity** of all information provided. **Nothing** will ever be published or reported that will associate your name and/or school with your responses to the survey questions. Therefore, you **should not** write your name, and/or school name on any part of the instrument. Your participation in this study is **completely voluntary**. You are hereby with consent to voluntarily participate in this study by providing responses to items of the various sections of this instrument.

Thank You.

SECTION A

DEMOGRAPHIC CHARACTERISTICS

Directions: Please indicate your response with a tick [√] in the box.

1. **Number of years in teaching service**

      a) Below 6 years [   ]

      b) 6 – 10 years [   ]

      c) Above 10 years [   ]

2. **Have you attended workshop on school-based assessment**?

      a) Yes   [   ]

      b) No   [   ]

SECTION B

TEACHERS' KNOWLEDGE IN SCHOOL-BASED ASSESSMENT

Directions: Please indicate with a tick [√] your level of knowledge in SBA.

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

	Statements	**SA**	**A**	**D**	**SD**
3	School-based assessment refers to an assessment system which is carried out at a pre-determined time interval.				
4	School-based assessment is carried out at periodic intervals for the purpose of improving the overall performance of students and of the teaching and learning process.				
5	School-based assessment involves looking at students in totality.				
6	School-based assessment involves making decisions on student performance at the end of any course or programme.				
7	School-based assessment requires taking decisions on students based on all records gathered in the course of a programme.				
8	School-based assessment system involves both a formative and summative assessment system.				
9	School-based assessment seeks for feedback from the students based on what the teachers have taught.				
10	School-based assessment is based on class tests, class exercises and projects.				
11	Teachers are involved at all stages of the				

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	school-based assessment process				
12	School-based assessment provides reduced assessment tasks for each school subjects				
13	School-based assessment standardized the practice of internal school-based assessment in all schools.				
14	School based assessment provides 50% of class work and 50% of end of term for assessment.				
15	School-based assessment is planned by the entire school.				
16	I have the knowledge to use various strategies in school-based assessment.				
17	I have sufficient knowledge about the use of teaching aids to facilitate student understanding about the lesson content through school-based assessment.				

SECTION C

TEACHERS' PRACTICE OF SCHOOL-BASED ASSESSMENT

Directions: Please indicate with a tick [√] your level of practice of SBAin your teaching.

	Statements	Always	Very Often	Sometimes	Never
18	In practicing school-based assessment, I make sure I follow its procedures and time of administration.				
19	In SBA practice, I give my students two tests, one group exercise and a project work in a term.				
20	I develop test items based on objectives that are very critical in each term's work.				
21	I develop test items based on objectives that consist of a series of activities.				
22	I develop test items based on objectives that need creativity on the part of the pupil for learning performance.				
23	In practicing school-based assessment, I make sure all the appropriate group exercises are administered.				
24	I complete the administration of school-based assessment by the end of the eleventh week.				
25	During group exercise I go round the groups as they work and offer help as may be needed without giving correct answers.				
26	I ask the various groups of pupils to give themselves a mark and grade for the work they have done at the end of the group exercise.				

27	In practicing school-based assessment, I make sure there are individual projects.				
28	In practicing school-based assessment, I make sure there are group projects.				
29	In practicing school-based assessment, I make sure project tasks are set with the knowledge and competence from other subjects.				
30	In practicing school-based assessment, I make sure classroom instruction makes use of real life and unfamiliar projects as illustrations to encourage pupils to apply their knowledge to problems of varying complexities.				
31	In school-based assessment practice, I award marks in relation to the effort and performance of each group.				
32	I analyze the problems pupils faced on the items and then organize a remedial session for the class.				

SECTION D

ASSOCIATED CHALLENGES IN USING SCHOOL-BASED

ASSESSMENT

Directions: Please indicate with a tick [√] the level of challenges you face in practicing SBA. Where: *SA = Strongly Agree, A = Agree, D = Disagree, and SD = Strongly Disagree*

	Statements	SA	A	D	SD
33	Large number of students prevents me from implementing school-based assessment.				
34	Non-availability of school-based assessment guidelines.				
35	Lack of training for teachers on school-based assessment.				
36	Truancy and irregular pupil attendance.				
37	There is poor record keeping on school-based assessment.				
38	I am not faithful with allocation of marks to my students				
39	The school-based assessment format takes all my time.				
40	Lack of support from the school authorities in terms of logistics and facilities.				
41	Lack of motivation from school authorities.				
42	Inadequate time allotted on the timetable for various subjects does not permit the use of school-based assessment effectively.				
43	Inadequate time to prepare in terms of gathering information and materials to be used for school-based assessment.				
44	Student copying one another's assignment and class work.				

Thanks for your time

APPENDIX C

ETHICAL CLEARANCE LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: *CES-ERB/ucc.edu/v3/19-03*   Date: *March 4, 2019*

Your Ref: ....

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

Chairman, CES-ERB
Prof. J. A. Omotosho
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Vice-Chairman, CES-ERB
Prof. K. Edjah
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Secretary, CES-ERB
Prof. Linda Dzama Forde
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0244786680

The bearer, *Robert Osman Iddrisu*, Reg. No. *EF/MEP/17* ... is an
M.Phil. / ~~Ph.D.~~ student in the Department of *Education and
Psychology* .... in the College of Education Studies,
University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to
undertake a research study on the topic:

*Teachers' Knowledge and practices of school-
based assessment in primary schools in the
Savelugu Municipality.*

The Ethical Review Board (ERB) of the College of Education Studies
(CES) has assessed his/~~her~~ proposal and confirm that the proposal
satisfies the College's ethical requirements for the conduct of the
study.

In view of the above, the researcher has been cleared and given approval
to commence his/~~her~~ study. The ERB would be grateful if you would
give him/~~her~~ the necessary assistance to facilitate the conduct of the said
research.

Thank you.
Yours faithfully,

Prof. Linda Dzama Forde
(Secretary, CES-ERB)