UNIVERSITY OF EDUCATION, WINNEBA

TEACHER MOTIVATION FACTORS AND THEIR EFFECT ON THE JOB PERFORMANCE OF BASIC SCHOOL MATHEMATICS TEACHERS IN THE AWUTU SENYA WEST DISTRICT OF THE CENTRAL REGION OF GHANA

KAFUI DENUEME

2016

UNIVERSITY OF EDUCATION, WINNEBA

TEACHER MOTIVATION FACTORS AND THEIR EFFECT ON THE JOB PERFORMANCE OF BASIC SCHOOL MATHEMATICS TEACHERS IN THE AWUTU SENYA WEST DISTRICT OF THE CENTRAL REGION OF GHANA

KAFUI DENUEME

(8130030002)

A THESIS IN THE DEPARTMENT OF BASIC EDUCATION, FACULTY OF EDUCATIONAL STUDIES, SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, UNIVERSITY OF EDUCATION, WINNEBA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF PHILOSPHY IN BASIC EDUCATION OF THE UNIVERSITY OF EDUCATION, WINNEBA.

OCTOBER, 2016

DECLARATION

I, Kafui Denueme, declare that this thesis, with the exception of quotations and references contained in published works which have been indentified and acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

....

KAFUI DENUEME DATE

CERTIFICATION

This thesis has been read and approved as meeting the requirements of the school of research and graduate studies, University of Education, Winneba.

....

DR. M. J. NABIE DATE

ACKNOWLEDGEMENTS

I am grateful to God for helping me to complete my thesis. I would like to thank my supervisor Dr. Michael Johnson Nabie of the Department of Mathematics Education of the University of Education, Winneba. The door to Dr. M. J. Nabie's office was always open whenever I had any challenges with my research or writing. He consistently steered me in the right direction whenever he thought I needed it. I am very grateful to him. I offer also my sincerest gratitude to lecturers of the Department of Basic Education and Department of Mathematics Education who encouraged and gave moral support to me during my studies and writing of my thesis. I am indebted to my M. Phil colleagues, especially Cyril Ababio Titty, who was a source of encouragement, support and enthusiasm, not only during the writing of this thesis but also during the course of my studies on the M.Phil Basic Education program. I am grateful to Emmanuel K. Wodewole for taking time off to read this work. I also thank the circuit supervisors, headteachers and teachers in the Awutu Efutu Senya District for their support and cooperation. Finally, I must express my very profound gratitude to my parents, sisters, my mother-in-law, Miss Elizabeth Asare and to my husband, Mr. Reginald Sitsofe Kwaku Agbo for providing me with unfailing support and continuous encouragement throughout my years of study. This accomplishment would not have been possible without them.

DEDICATION

This thesis is dedicated to my dear family.

TABLE CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

The purpose of the study was to explore factors determining lower primary mathematics teachers' motivation and its effect on their job performance in the central region. The research was conducted in the Awutu Senya West District in the Central Region of Ghana. The theoretical framework which underpinned the study was Herzberg's Two-Factor theory. The research design employed in the study was mixed method. All lower primary school mathematics teachers and headteachers constituted the population of the study. The quota sampling technique was used to select One hundred and sixty-eight (168) lower primary mathematics teachers and seven (7) headteachers from the seven circuits in the District. The study adapted the Minnesota Satisfaction Questionnaire (MSQ) to collect quantitative data on factors contributing to the respondents' motivational state. Self-developed interview guide and documentary analysis were also used to collect qualitative data. Frequencies, percentages, mean and standard deviation scores were the descriptive statistics employed to analyse aspects of the quantitative data gathered from the respondents. Pearson's Moment-Product Correlation and Independent-sampled t-test were also used to inferentially analyse the rest of the quantitative data. The qualitative data on the other hand was analysed using thematic analysis. The results show that teachers were motivated intrinsically. A significant and non-significant positive relationship between factors motivating lower primary school mathematics teachers and their job performance were established. This implies that increase in factors motivating teachers is likely to lead to increase their performance at work. Therefore, the study recommends that lower primary Mathematics teachers should be adequately motivated by providing them with attractive incentive packages from the Ghana Education Service and other stockholders through their headteachers to them.

CHAPTER ONE

INTRODUCTION

1.0 Overview

The chapter deals with the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, the significance of the study, the limitations and delimitations of the study and the organisation of the study.

1.1 Background of the Study

There is no question about the importance of Mathematics as a vehicle for driving human intellectual achievement, or of its essential role in technological progress (National Council of Teachers of Mathematics [NCTM], 2016). Mathematics as a subject cuts across all other school subjects like Science, Economics, Physics, Music and Dance. It is used in all spheres of human life such as farming, cooking, engineering, trading, among others. Mathematics, one of the most useful intellectual tools, is now attracting more attention as the years run into more complex scientific evolution. The understanding of Mathematics concepts enables both the teachers and the learners to apply knowledge gained in the Mathematics classroom to everyday problem solving situations. A credit pass in Mathematics is a requirement for admission into institutions of higher learning. Thus, Mathematics should be taught well, especially at the primary level of our educational ladder where foundation concepts are developed, in order for students to have a firm grasp of the content as well as develop a keen interest in the subject. This is to enable them gain admission to higher education institutions.

Mathematics is an excellent vehicle for the development and improvement of children intellectual competence in logical reasoning, spatial visualisation, analysis

and abstract thought (Copley, 2010). Children develop numeracy, reasoning, thinking, and problem-solving skills through the learning and application of Mathematics. They compare quantities, find patterns, navigate in space, and grapple with real problems such as balancing block or sharing of food fairly with their playmates. Mathematics helps children to make sense of their activities outside school and helps them to construct a solid foundation for success in school. In the Junior High School, children need Mathematical understanding. These skills are valued not only in science and technology, but also in everyday life (Curriculum Planning and Development Division [CPDD], 2006). The development of a highly skilled and technologically-based manpower requires a strong grounding in Mathematics. As a fundamental tool for development, countries that aim at preparing their citizens for a productive life in the 21st century incorporate Mathematics as a core subject of study in the school curriculum. Emphasis on Mathematics education is to ensure that countries have an increasingly competitive workforce to meet the challenges of the day. It is therefore a significant fact that, in almost every country, Mathematics occupies a central place in the school curriculum.

In Ghana, Mathematics is placed on a high pedestal in the educational system due to the benefits inherent in it. Subsequently, the attention of scholars, researchers, practitioners and other stakeholders has been drawn to the teaching and learning of the subject at the lower level of our educational system. Among the question which has drawn the stakeholders' interest and attention to the teaching of the subject are: Are children moved towards the day when their decisions will be the ones shaping our country? Will they be equipped with the mathematical and scientific tools needed to meet those challenges and capitalise on those opportunities? To answer these and other questions, stakeholders are among others paying attention to the classroom

teacher. This brings the teacher into mind since that person is at the fore-front of curriculum implementation.

According to Kumar (2013) “teaching is the art of arousing the joy in creative expression and knowledge in a learner”(p.13). In Kumar’s view, only teachers have the ability to push nations to achieving commanding heights and develop through intellectualism. National development depends on its educational system and teachers are expected to be the nation builders. The role of a teacher cannot be ignored in bringing progress, prosperity and developmental process to a nation. Also, seeking for stability of a society can be facilitated by the promotion and acceleration of growth through disciplined, academically sound and professional competent teachers. Organizational success depends on the effectiveness of the performances of the individuals developed by teachers who constitute the human capital of a nation (Saetang & Babel, 2010). Arif (2003) opines that competent and knowledgeable educators are considered an important strength of any educational institution. Teaching is a very special profession because teachers have a great role in their students’ intellectual, personal and social development, thereby influencing the whole nation’s development. Teachers can have influence more profound than others and give the glorious position and dignified status to a nation.

Mathematics teachers play a very important role in the learning process of students and the development of a school. In the primary school classroom, mathematics teachers are expected to guide children to make connections of Mathematical ideas and develop their mathematical knowledge throughout the day and across the curriculum. They are also expected to actively introduce mathematical concepts, methods, and language through a variety of appropriate experiences and research-based teaching strategies. In addition, teachers are responsible for

encouraging children to communicate, and explaining their thinking as they interact with important mathematics in deep and in a sustained ways (National Council of Teachers of Mathematics (NCTM), 2016). As such practices in the primary schools, in turn, require that teachers have the support of policies, organizational structures, and resources from schools authorities, educational directorate, Ghana Educational Service and the government that enable them to succeed in this challenging and important work. In its simplest term, teachers must receive the appropriate motivation in order to achieve success in undertaking this challenging task.

The motivation of the teacher is very important as it directly affects the teacher's output. Teacher motivation encompasses forces both intrinsic (within) and extrinsic (external) in nature (Sansone & Harackiewicz, 2000). Intrinsic motivation, deriving from within the individual or from the activity itself, positively affects behaviour, public display, and wellbeing (Ryan & Deci, 2000). This internal teacher motivation according to Hicks (2011), comprises of the needs, wants and desires which exist within an individual; as such influence the teachers thought which in turn leads to a positive change in behaviour toward improving learning. On the other hand, extrinsic motivation results from the attainment of externally administered rewards. The external factors that motivate teachers' performance include externally administered rewards like salary, material possessions, prestige, and positive evaluations, respect for subordinates among others (Hicks, 2011; Latt, 2008).

Furthermore, teacher motivation plays a critical role in changing the attitude of teachers towards their work. It can be said that satisfied teachers are generally more productive and positively influence their students' achievement (Analoui, 2000). This suggests that teachers attitude towards work can be influenced positively through motivation. From situation to situation, the level of motivation differs within an

individual (Robbins, Judge, & Sanghi, 2005). Motivation of a teacher at the primary school can be stimulated by a particular behaviour and satisfaction is expected to be the product of that behaviour. The level of intrinsic motivation stimulated by working with children, seeing their progress and achievement and making a contribution to society are among the factors attributed to teacher's satisfaction, and maintaining a good level of motivation in the job (Zembylas & Papanastasiou, 2003). Satisfaction tends to motivate teachers to aim for higher performance and achievement to fulfil their sense of accomplishment. Teachers need self- actualization because without it, it may lead to teacher burn-out. Teachers therefore prepare to be provided with opportunities to enhance self-actualization. Teachers' contribution in the human capital development and technological advancement greatly depends on their motivation and willingness to take initiatives.

According to Mustafa and Othman (2010) teacher motivation is very crucial in improving the skills and knowledge of teachers which directly influences their performance as well as the student's achievement. The extent to which teachers are able to motivate their students depends on how motivated they are (Atkinson, 2000; Bernaus, Wilson, & Gardner, 2009; Guilloteaux & Dornyei, 2008). High motivation may enhance school teachers' efficiency and effectiveness leading to improved teacher and student performance (Kusereka, 2003). According to Kayuni and Tambulasi (2007), lack of motivation and commitment can have a negative impact on student's learning and most importantly it can put the future of children at stake. Failure to motivate teachers can lead to apathy, reduced performance, request for transfers to other schools, increased value on material rewards, hostility to school officials, and working for promotion to other positions with better prospects (Frederick, 2001).

1.2 Statement of the Problem

Mathematics teachers in Ghana play a crucial role in the development of the country's educational system. Yet available research (Sarpong, 2002; Osei, 2006) indicate that many teachers, especially at the public pre-tertiary level, are not motivated in their professional practice. Various reasons have been attributed to the situation. It is argued that although teachers in public pre-tertiary schools in Ghana are the most essential agents of change in the Educational system, they are unfairly treated (Osei, 2006). This unfair treatment relates to many teachers teaching large classes with high Teacher-Pupil Ratio (TPR) of 1:70 instead of the stipulated TPR of 1:24. Such classes usually have few pieces of furniture and textbooks for students (Tanaka, 2010).

Research has shown that teaching in large classrooms without adequate teaching and learning resources predisposes teachers to hardship and stress (Velez, 2007; Tanaka, 2010). Stressful conditions turn to affect teacher motivation and results in poor teacher job performance. Teachers may absent themselves from work as a result of stress and sickness (Velez, 2007) which can lead to poor academic performance of students. In view of this, Mensah (2011) revealed that the absenteeism rate in Ghana among public basic schools teachers is estimated to be as high as 27%. It is also argued that teachers who accept postings to rural areas do not receive their salaries on time as compared to their counterparts with the same qualification in cities (Osei, 2006). Although salary is an important factor that influences the employees output, research (Osei, 2006; Velez, 2007) has indicated that teachers' performance is positively influence by the working conditions in his or her work environment.

Abwalla's (2014) work revealed that lack of teacher motivation reduces the level of their performance, affects the teaching and learning process and/or causes

undesirable outcomes such as student failure in examination, high repetition rate, drop-out among others. Literature (Kassim, 2013; National Education Assessment, NEA, 2015) has shown that pupils' academic performance in external mathematics examinations in the country has seen checkered results. The poor performance of pupils in Mathematics could be due to lack of teacher motivation. For example, the results of pupils reaching competency and proficiency level in the National Education Assessment (NEA) for the period 2005 - 2014 is shown in Table 1.1.

Table 1.1: Distribution of Minimum Competency and Proficiency in National Education Assessment.

	PRIMARY 3		PRIMARY 6	
	MATHS		MATHS	
Year	Minimum Competency (%)	Proficiency (%)	Minimum competency (%)	Proficiency (%)
2005/2006	47.2	18.6	47.2	9.8
2007/2008	42.6	14.6	46.2	10.8
2009/2010	61.2	25.2	61.9	13.8
2011/2012	52.6	18.2	56.9	16.1
2013/2014	35.0	22.1	50.0	10.9

Source: Education Sector Performance Reports (2015)

Table 1.1 reveals the general performance of Primary 3 and 6 pupils in Ghana in the 2005 to 2014 academic years in National Education Assessment (NEA). From the table, it can be seen that over the years, pupils' competencies and proficiencies in Mathematics has not been encouraging.

What then is the situation in the Awutu Senya West District? Interestingly, through personal discussion with some basic school teachers in the district, it seems some of the teachers have concerns on supervision, attitude of school management, absence of compensation programmes, just to mention a few. Besides, according to

the Awutu Senya West District Education report (2014), teacher attrition in the district seems to be high due to lack of motivational packages in the service. To understand the concerns of teachers on motivation in the district, this study was designed to unearth the factors affecting teacher motivation and its effects on job performance in the Awutu Senya West District of the Central Region of Ghana.

1.3 Purpose of the Study

The purpose of the study was to explore teacher motivation factors and their effect on the job performance of basic school Mathematics teachers in the Awutu Senya West District of the Central Region of Ghana

1.4 Objectives of the Study

The study sought to:

1. find the motivational packages that motivate basic school Mathematics teachers;
2. identify the level of basic school teachers' job performance, as perceived by Mathematics teachers in the Awutu Senya West District;
3. establish the relationship that may exist between Awutu Senya West District Mathematics teachers' motivation at work and their current job performance; and
4. investigate the extent to which male and female lower primary Mathematics teachers in public basic schools differ in relation to their current job performance.

1.5 Research Questions

The following research questions were formulated to guide the study:

1. What motivational factors inspire lower primary Mathematics teachers in the Awutu Senya West District to perform their professional duties?
2. How do Awutu Senya West District lower primary Mathematics teachers perceive their level of job performance?

3. To what extent do factors motivating Awutu Senya West District public basic school Mathematics teachers relate to their current job performance?
4. To what extent do male and female lower primary Mathematics teachers in public basic schools differ in relation to their current job performance?

1.6 Significance of the Study

The findings of the study are important because:

1. it is envisaged that findings from the study may reveal the various kinds of motivational packages that Basic School Mathematics teachers in Awutu Senya West District experience and the relationship that exist between these motivational packages and Mathematics teachers' job performance. This exposition would help the Awutu Senya West District Educational Directorate to adapt workable measures or strategies that are likely to improve motivational packages and teachers' job performance;
2. the study would provide information that is likely to be useful on motivational packages for the purposes of In-Service Training of supervisors and other stakeholders in education in the district;
3. it will also serve as a reference material for policy makers to consider in the design of motivational packages to be implemented at the Basic School level of our educational ladder that might yield encouraging result in teacher job performance; and
4. finally, this study is likely to inspire other researchers to embark on similar studies into motivational packages that affect job performance of teachers in public basic schools in other districts and municipalities in the Central Region of Ghana. Such studies will provide more information on motivational packages that contribute to job performance of teachers in public schools.

1.7 Delimitations

The study was delimited in both geographical and content wise. The study was conducted among Public Basic School Mathematics teachers in the Awutu Senya West District in the Central Region of Ghana. Although the region has 20 districts, one district was used for the study in order to include the variables of interest and to reach out to all information rich respondents. Although, the scope of motivation is evidently wide, the study focused only on Basic School Mathematics teachers' perspective of motivational packages they were experiencing.

1.8 Limitations

The study, like other research works falls short of the ideal. The main limitation to the study was that most of the Mathematics teachers in the district were not at post at the time of the collection of the questionnaires. This reduced the number of completed questionnaires received for the data analysis. Another limitation was that resources did prevent a wider coverage of the entire Central Region of Ghana. The study was consequently based on the accessible sample in the Awutu Senya West District despite the large number (20) of districts in the region. This procedure therefore decreased the generalisation of the findings to the entire population (Central Regional basic school teachers). The codification, organisation and classification of the data collected for analysis and discussions were the most demanding in the research design. It was also particularly difficult to sieve all useful responses from the interviews in categories for presentation and analysis. The categories identified in the study were therefore shaped by the researcher's perception, interpretation, and building of meaning of the data collected with guidance from the thesis supervisor. This method of data analysis is not unusual as it remains typical of qualitative study (Patton, 2002).

1.9 Organisation of the Study

The study is organised into five chapters. The first chapter, the introduction, includes background to the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, the delimitations and limitations as well as the organisation of the study that set the study in context. Chapter Two discusses the theoretical framework and the review of relevant literature. Chapter Three discusses the strategies and design approaches employed in the collection and analysis of data. Chapter Four presents and discusses the results of the study. Chapter Five presents summary of the results, conclusions, recommendations and suggestions for further study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter presents the review of related literature. It includes, the theoretical framework, motivation as a concept within the teaching profession, the concept teacher motivation, factors influencing teacher motivation, the impact of motivation on teacher's output and summary of the literature review.

2.1 Theoretical framework

The theoretical framework of this study is based on Herzberg's Two–Factor Theory of Motivation. According to this theory, performance is dependent on the satisfaction or dissatisfaction of employees. Longest and Beaufort (2006) explain that there is one set of factors called satisfiers or motivators which, results in satisfaction to employees when they are adequate. According to them the other factors are called the dissatisfiers or hygiene factors, and cause dissatisfaction to employees when they are deficient or inadequate. Longest and Beaufort state further that the absence of both the satisfiers and hygiene factors lead to dissatisfaction to employees, which may affect performance. Longest and Beaufort classify factors that contribute to performance brought about by satisfaction as motivators and are regarded as intrinsic factors or rewards (that is, they are rewards that drive from performing work itself). The other factors that are regarded as extrinsic factors or rewards are factors under the control of managers in the workplace.

Table 2.1: Herzberg's Two-Factor Theory of Motivation

Motivators	Hygiene Factors
1. Achievement 2. Recognition 3. Work itself 4. Responsibility 5. Advancement 6. Growth	1) Organisational policy 2) Supervision 3) Relationship with supervisor 4) Working conditions 5) Salary 6) Relationship with subordinates 7) Status 8) Security
Factors contributing to job satisfaction extreme satisfaction if high	Factors contributing to job dissatisfaction extreme dissatisfaction if low

According to this theory, hygiene factors affect job dissatisfaction and motivators affect job satisfaction, as such, managers must improve or control hygiene factors to minimize dissatisfaction (Longest, Beautfort, Jr. Jonathon, Rakih & Kurt Darr, 2000). Herzberg's Motivation-hygiene theory also states that job enrichment plays a role in performance when motivators are incorporated within the following dimensions:

1. Skill variety is by adding to the skill base needed to perform a job, the work itself becomes more interesting and challenging;
2. Task identity is by permitting people to complete the whole, identifiable pieces of work, the work itself becomes more important and satisfying to people;
3. Task significance is by making clear to them that their work has relevance to organisational objectives;
4. Autonomy is by increasing people's participation in decision making and permitting the exercise of independent judgment, they are given a greater sense of responsibility in their work; and
5. Feedback is by increasing the amount of information they receive about their job performance, especially when it recognises good performance, people gain

a sense of achievement, recognition and growth when good performance is tied to advancement in the job (Beaufort & Longest, 1996, p. 255).

The researcher has therefore decided to use Herzberg's Two-factor theory of motivation in the study because it consists of several factors affecting performance that can be used in the study to identify the real contributing factors affecting teachers' motivation in the public basic schools in the Awutu Senya West District.

2.2 Theories of Motivation

There are many competing theories which attempt to explain the nature of motivation. These theories may all be at least partially true, and help to explain the behaviour of certain people at certain times. However, the search for a generalised theory of motivation at work appears to be in vain. A major determinant of behaviour is the particular situation in which individual workers find themselves. Motivation varies over time and according to circumstances. It is often most acute for younger people starting on their career, for people at mid-career positions or for those who find limited opportunities for promotion or further advancement. For employers, there may be difficulties in motivating staff both in the longer term as well as in the short run.

It is because of the complexity of motivation, and the fact that there is no ready-made solution or single answer to what motivates people to work well, that the different theories are important to the manager and the school administrator. They show there are many motives which influence people's behaviour and performance. Collectively, the different theories provide a framework within which to direct attention to the problem of how best to motivate staff to work willingly and effectively. It is important to emphasize, however, that these various theories are not conclusive. They all have their critics (this is particularly true of the content theories

of motivation), or have been subject to alternative findings which purport to contradict the original ideas. Many of these theories were not intended, originally, to have the significance that some writers have subsequently placed upon them. It is always easy to quote an example which appears to contradict any generalised observation on what motivates people to work. However, these different theories provide a basis for study and discussion, and for review of the most effective motivational style.

The manager, therefore, must judge the relevance of these different theories, how best to draw upon them, and how they might effectively be applied in particular work situations. The manager should be aware of at least the main theories of motivation.

The usual approach to the study of motivation is through an understanding of internal cognitive processes, that is, what people feel and how they think. This understanding should help the manager to predict likely behaviour of staff in given situations. These different cognitive theories of motivation are usually divided into two contrasting approaches: content theories and process theories.

Content theories attempt to explain those specific things which actually motivate the individual at work. These theories are concerned with identifying people's needs and their relative strengths, and the goals they pursue in order to satisfy these needs. Content theories place emphasis on the nature of needs and what motivates.

Process theories attempt to identify the relationship among the dynamic variables which make up motivation. These theories are concerned more with how behaviour is initiated, directed and sustained. Process theories place emphasis on the actual process of motivation.

2.2.1 Content Theories

Content Theories are also called needs theory. Campbell and Pritchard (1976) classified Maslow and Herzberg theories as content theories since they are basically interested in identifying factors that influence job satisfaction and dissatisfaction. Content theories try to identify the needs that people will strive to satisfy. It is the drive to satisfy these needs that direct people to work. Although there are many competent content theories in work motivation, this chapter will mainly focus on four famous content theories, namely:

1. Maslow's Hierarchy of Needs Theory
2. Alderfer's Existence, Relatedness and Growth (ERG) Theory
3. Herzberg's Two-Factor Theory
4. McClelland's Achievement Theory

2.2.1.1 Maslow's Hierarchy of Needs Theory

A useful starting point is the work of *Maslow*, and the theory of individual development and motivation, published originally in 1943. Maslow's basic proposition is that people are wanting beings, they always want more, and what they want depends on what they already have. Maslow suggests that human needs are arranged in a series of levels, a hierarchy of importance.

Maslow identified eight innate needs, including the need to know and understand, aesthetic needs, and the need for transcendence. However, the hierarchy is usually shown as ranging through five main levels, from, at the lowest level, physiological needs, through safety needs, love needs, and esteem needs, to the need for self-actualisation at the highest level. The hierarchy of needs may be shown as a series of steps, but is usually displayed in the form of a pyramid. This is an

appropriate form of illustration as it implies a thinning out of needs as people progress up the hierarchy. The needs in terms of hierarchy are:

1. Physiological needs. These include homeostasis (the body's automatic efforts to retain normal functioning) such as satisfaction of hunger and thirst, the need for oxygen and to maintain temperature regulation. Also sleep, sensory pleasures, activity, maternal behaviour, and arguably sexual desire are part of physiological needs.
2. Safety needs. These include safety and security, freedom from pain or threat of physical attack, protection from danger or deprivation, the need for predictability and orderliness.
3. Love needs (often referred to as social needs). These include affection, sense of belonging, social activities, friendships, and both the giving and receiving of love.
4. Esteem needs (sometimes referred to as ego needs). These include both self-respect and the esteem of others. Self-respect involves the desire for confidence, strength, independence and freedom, and achievement. Esteem of others involves reputation or prestige, status, recognition, attention and appreciation.
5. Self-actualisation needs. This is the development and realisation of one's full potential. Maslow sees this as: 'What humans can be, they must be', or 'becoming everything that one is capable of becoming'. Self-actualisation needs are not necessarily a creative urge, and may take many forms that vary widely from one individual to another.

Figure 2.1 presents a diagrammatic representation of the various levels of Maslow's hierarchy of needs model.

Figure 2.1 Maslow's hierarchy of needs model.

Source: Maslow (1954)

Once a lower need has been satisfied, it no longer acts as a strong motivator. The needs of the next higher level in the hierarchy demand satisfaction and become the motivating influence. Only unsatisfied needs motivate a person. Thus, Maslow asserts that a satisfied need is no longer a motivator.

Although Maslow suggests that most people have these basic needs in about the order indicated, he also makes it clear that the hierarchy is not necessarily a fixed order. There will be a number of exceptions to the order indicated. For some people there will be a reversal of the hierarchy, for example:

1. Self-esteem may seem to be more important than love to some people. This is the most common reversal of the hierarchy. It is often based on the belief that the person most loved is strong, confident or inspires respect. People seeking love try to put on a show of aggressive, confident behaviour. They are not really seeking self-esteem as an end in itself but for the sake of love needs.
2. For some innately creative people the drive for creativity and self-actualisation may arise despite lack of satisfaction of more basic needs.

3. Higher-level needs may be lost in some people who will continue to be satisfied at lower levels only: for example, a person who has experienced chronic unemployment.
4. Some people who have been deprived of love in early childhood may experience the permanent loss of love needs.
5. A need which has continued to be satisfied over a long period of time may be undervalued. For example, people who have never suffered from chronic hunger may tend to underestimate its effects, and regard food as rather an unimportant thing. Where people are dominated by a higher-level need this may assume greater importance than more basic needs.
6. People with high ideals or values may become martyrs and give up everything else for the sake of their beliefs. Maslow claims that the hierarchy is relatively universal among different cultures, but he recognises that there are differences in an individual's motivational content in a particular culture. Maslow points out that a false impression may be given that a need must be satisfied fully before a subsequent need arises. Maslow suggests that a more realistic description is in terms of decreasing percentages of satisfaction along levels of the hierarchy. For example, arbitrary figures for the average person may be: satisfied 85% in physiological needs; 70% in safety needs; 50% in love needs; 40% in esteem needs; and 10% in self actualisation needs. There is a gradual emergence of a higher-level need as lower-level needs become more satisfied. The relative importance of these needs changes during the psychological development of the individual. Maslow subsequently modified his views by noting that satisfaction of self-actualisation needs by growth-motivated individuals can actually enhance these needs rather than reduce them.

Furthermore, Maslow accepted that some higher-level needs may still emerge after long deprivation of lower level needs, rather than only after their satisfaction.

2.2.1.2 Alderfer's Modified Need Hierarchy Model

A modified need hierarchy model has been presented by Alderfer. This model condenses Maslow's five levels of theory of needs into only three levels based on the core needs of humans and they are: Existence, Relatedness and Growth (ERG theory).

1. Existence needs are concerned with sustaining human existence and survival and cover physiological and safety needs of a material nature.
2. Relatedness needs are concerned with relationships to the social environment and cover love or belonging, affiliation and meaningful interpersonal relationships of a safety or esteem nature.
3. Growth needs are concerned with the development of potential and cover self-esteem and self-actualisation.

Figure 2.2 is the pictorial representation of Alderfer's ERG Theory to Educational Motivation.

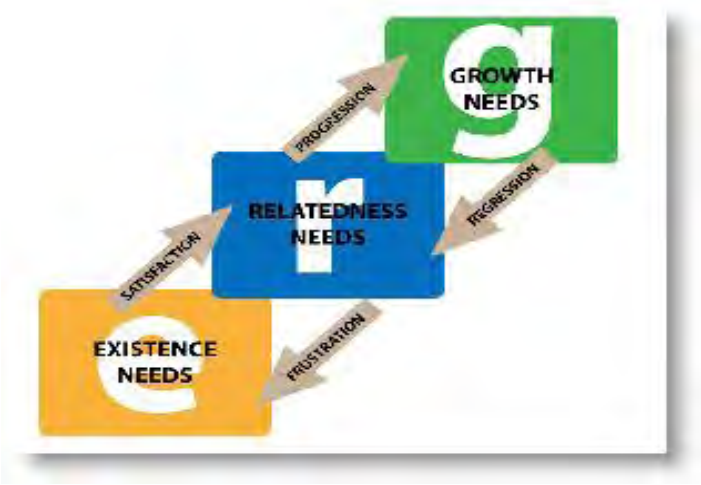

Figure 2.2 Application of Alderfer's ERG Theory to Educational Motivation.

Source: Alderfer (1969)

In the school, supervisors must recognise that a teacher has multiple needs to satisfy simultaneously. According to the ERG Theory, focusing exclusively on one need at a time will not effectively motivate teachers to do their job. The ERG Theory acknowledges that if a higher level need remains unfulfilled the teacher may regress to lower level needs that they can more easily satisfy. This frustrates teachers and impacts workplace motivation until the higher need can be fulfilled. Another importance is that the ERG Theory states that an individual needs to satisfy several motivators at the same time; therefore, supervisors who only try to satisfy one need at a time will not be effective in motivating their teachers. In addition, needs do not have to be filled in any particular order. The ERG theory allows for movement back and forth from one need to another (PSWC, 2013).

Furthermore, one important aspect of the ERG theory to look at in a supervision position is the frustration-regression principle. This principle explains that without opportunities to advance, employees may regress and end up satisfying other needs, like socialising with co-workers. It is important for those in leadership positions to realize the possibility of regression and provide room for growth and socialization with their employees (Envision Software Incorporated, 2007).

2.2.1.3 Herzberg's Two-Factor Theory

Herzberg's theory of motivation is made up of two major components namely the Hygiene and Motivating factors. One set of factors are those that, if absent, causes dissatisfaction. These factors are related to job context, they are concerned with job environment and extrinsic to the job itself. These factors are the 'hygiene' or 'maintenance' factors ('hygiene' being used as analogous to the medical term meaning preventive and environmental). They serve to prevent dissatisfaction. The

other set of factors are those that, if present, serve to motivate the individual to superior effort and performance. These factors are related to job content of the work itself. They are the 'motivators' or growth factors. The strength of these factors will affect feelings of satisfaction or no satisfaction, but not dissatisfaction. The opposite of dissatisfaction is not satisfaction but, simply, no dissatisfaction.

The hygiene factors can be related roughly to Maslow's lower-level needs and the motivators to Maslow's higher-level needs. To motivate workers to give of their best, the supervisor must give proper attention to the motivators or growth factors. Herzberg emphasizes that hygiene factors are not a 'second-class citizen system'. They are as important as the motivators, but for different reasons. Hygiene factors are necessary to avoid unpleasantness at work and to deny unfair treatment. 'Supervisors should never deny people proper treatment at work.' The motivators relate to what people are allowed to do and the quality of human experience at work. They are the variables that actually motivate people. The work of Herzberg indicates that it is more likely good performance leads to job satisfaction rather than the reverse.

Implications of Herzberg's Two-Factor theory to Educational Motivation

The findings of Herzberg's Two-Factor theory imply that teachers' motivation can be improved through changes in the nature of the job through job enrichment. Management and Supervisors should thus make it possible for the teachers to have maximum control over the mechanism of task performance. Teachers' jobs should also be designed in a way that would enable them to experience a feeling of accomplishment of assigned duties. Hence, educational managers and supervisors should see to it that teachers are given direct, clear, and regular feedback on their performance in particular and the organisational performance in general. Managers and supervisors should also provide an enabling working environment to motivate

teachers to learn new and different procedure on the job and also experience some degree of personal growth through promotion and further training.

2.2.1.4 McClelland's Achievement Motivation Theory

David McClelland identified three types of motivational needs, on which he based a model to describe one's style with regard to being motivated and motivating others, depending on the different level of needs within the individual. There are a few distinct characteristics possessed by individuals with each need. These are:

1. Need for Achievement Motivation: People with a high need for achievement are attracted to situations offering personal accountability; set challenging, yet attainable, goals for themselves; and desire performance feedback. (Stuart-Kotze, 2009)
2. Need for Authority/Power Motivation: Individuals with a need for authority and power desire to influence others, but do not demonstrate a need to simply have control. These individuals possess motivation and the need to increase personal status and prestige.
3. Need for Affiliation Motivation: Finally, individuals with a need for affiliation value building strong relationships, admire belonging to groups or organizations, and are sensitive to the needs of others (Stuart-Kotze, 2009). This type of person is a team player and wants to be respected and liked.

Application of McClelland's Achievement Theory to Educational Motivation

By understanding and being able to effectively measure need for affiliation, need for power, and need for achievement characteristics among teachers, supervisors have the opportunity to make better decisions of which type of teachers to put in various positions. For instance, since teachers with a high need for achievement

have a high need for professional and personal improvement and success, a teacher with a high need for achievement motivation may not be best suited for the lower primary position without any opportunity for advancement or growth. Conversely, someone with a high need for affiliation motivation might be the perfect person to work with children at the lower primary stage. McClelland's Need Theory suggests that understanding these needs and accurately placing the right people in the right positions should yield greater levels of motivation which, in turn, should increase productivity and reduce turnover in our educational sector.

When it comes to supervision and management, McClelland's theory can prove to be very beneficial. It is important to realize that people are motivated differently. Some individuals have a high need for achievement and should be given difficult and challenging projects. Employees with a need for high achievement should be given frequent feedback. Individuals with a high need for affiliation need to work in a cooperative environment. They enjoy working in groups or teams and will be very productive in those circumstances. Those who have a need for power should be given the opportunity to manage others. In group projects the management should deem them the leader of the group, especially with those who have a need for affiliation. This presents a great situation that allows for two types of people to be motivated and to work together while each accomplishing their goals and fulfilling individual needs (NetMBA.com, 2007).

The above are some major content theories which can be applied in the field of educational supervision. Another class of motivational theories in literature are the Process Theories and Product Theories.

2.2.2 Process Theories

Process theories try to identify the association among the dynamic variables that lead to work motivation. Process theories strive to provide an understanding of the thought that takes place in the minds of people and that acts to influence their work behaviour. The major ones includes:

1. Vroom's Expectancy Theory;
2. Equity Theory; and
3. Goal Theory;

2.2.2.1 Vroom's Expectancy Theory

Vroom (1964) was the first person to propose an expectancy theory aimed specifically at work motivation. Vroom model is based on three key variables: valence, instrumentality and expectancy (VIE theory or expectancy/valence theory). The theory is founded on the idea that people prefer certain outcomes from their behaviour over others. They anticipate feelings of satisfaction should the preferred outcome be achieved.

1. Valence:

   Valence means "value" and refers to beliefs about outcome desirability (Redmond, 2010). There are individual differences in the level of value associated with any specific outcome. For instance, a bonus may not increase motivation for an employee who is motivated by formal recognition or by increased status such as promotion. Valence can be thought of as the pressure or importance that a person puts on an expected outcome.

2. Instrumentality:

   Instrumentality can be described as the thought that if an individual performs well, then a valued outcome will come to that individual. Some things that

help instrumentality are having a clear understanding of the relationship between performance and the outcomes, having trust and respect for people who make the decisions on who gets what reward, and seeing transparency in the process of who gets what reward.

3. Expectancy:

   Expectancy can be described as the belief that higher or increased effort will yield better performance. This can be explained by the thinking of working harder and making something better. Conditions that enhance expectancy include having the correct resources available, having the required skill set for the job at hand, and having the necessary support to get the job done correctly.

Application of Expectancy Theory in the Educational Sector

Expectancy**:** A supervisor's ability to understand expectancy as related to the Effort and Performance (E-P) linkage can be extremely useful in the workplace. There are many distinct components for the educational supervisor to keep in mind concerning this linkage. First, a supervisor needs to present a reasonably challenging assignment to the Mathematics teacher. It has been shown that unchallenging work leads to boredom, frustration and marginal performance. Challenging work allows for self-confidence, education, ability development, training, skills and experience, among other things. Second, the supervisor must consider the teacher's ability. Because people differ on experience, knowledge, training, skill, educational level and so forth, tasks need to be assigned based on the individual's level of competence. If an individual feels they are not capable to complete the tasks assigned, the E-P linkage will be weak. A competent supervisor needs to provide the necessary skills to the individual in order for them to be successful.

Instrumentality: The strength performance output (instrumentality) linkage will be contingent upon the following beliefs of the follower. First, a teacher needs to be able to trust that a supervisor will be able to deliver the outcome promised. It is the outcome that drives the motivational state according to the expectancy theory. A teacher's ability to trust that a supervisor can and will follow through with an outcome, greatly affect the performance and output linkage. Second, the supervisor needs to make sure teachers receive fair treatment in a predictable manner. This is not to suggest that people should be treated exactly the same.

Valence**:** With valence, there are two issues a supervisor should concern himself with. First, the attractiveness or value of outcomes differs amongst individuals. A leader needs to be able to identify the value of each outcome from the perspective of the Mathematics teacher. There are several types of rewards that can induce heightened motivational states for individuals. Second, supervisors must put a lot of effort into the alignment of the Mathematics teacher's personal goals and those of the school. It is extremely important that the goals of the individual teachers are assimilated into the goals of the educational sector. The pairing of these goals is crucial to workplace motivation. A supervisor's ability to do this will greatly enhance both their understanding of valence, as it pertains to individual Mathematics teachers, as well as give them the ability to use this understanding to motivate Mathematics teachers on the job.

2.2.2.2 Equity Theory of Motivation

Another process theory of motivation to be considered is Equity theory. Applied to the work situation, equity theory is usually associated with the work of Adams. Equity theory focuses on people's feelings of how fairly they have been treated in comparison with the treatment received by others. For example, a person

may expect promotion as an outcome of a high level of contribution (input) in helping to achieve an important organizational objective. People also compare their own position with that of others. They determine the perceived equity of their own position. Their feelings about the equity of the exchange are affected by the treatment they receive when compared with what happens to other people. Most exchanges involve a number of inputs and outcomes. According to equity theory, people place a weighting on these various inputs and outcomes according to how they perceive their importance. When there is an unequal comparison of ratios the person experiences a sense of inequity.

Application of Equity Theory in the Workplace

It is in the best interest of the supervisor to ensure that their teachers remain motivated and productive. While it is difficult, if not impossible, to predict with whom teachers might compare their inputs and outputs, there are measures that the supervisor can take to reduce feelings of inequity or combat perceptions of inequity in the workplace. In terms of handling the distribution of rewards, supervisors should be attuned to distributive and procedural justice. Distributive justice involves ensuring that outcomes are fairly distributed in the organization (Stecher & Rosse, 2005). Procedural justice deals with whether or not the process used to allocate the rewards is fair (Redmond, 2009). Giving teachers a voice in the decision-making process, making unbiased decisions, and being consistent in the application of rules lends to a procedurally just process. "People feel affirmed if the procedures that are adopted treat them with respect and dignity, making it easier to accept outcomes they do not like" (Deutsch, 2000, p.45). For example, Skarlicki and Folger (1997) found that employees that are treated with respect are more likely to tolerate unfair pay. Whether the pay or compensation is actually unfair might be irrelevant. To the employee a

perception of unfair compensation is the same as actual unfair compensation. Then they will be less likely to decrease their inputs or engage in counter-productive work behaviors to compensate for a perception of underpayment inequity. So, in addition to establishing fair distribution and procedures in an organisation, supervisors should always treat their supervisees with respect. This can help maintain or increase motivation and prevent problems that stem from perceptions of under reward.

Supervisors also need to remember that Mathematics teachers can value different outcomes. For example, younger Mathematics teachers tend to value more pay (Miles & Huberman, 1994). To combat this problem, supervisors can implement two strategies. First, they could continually request feedback from employees to determine what they value and how they would prefer to be compensated. Another strategy used by employers is to offer a choice in benefits. This type of plan, called a cafeteria style, allows employees to select outcomes that they value most. This can help prevent perceptions of inequity because each employee has the outcomes that they value the highest. This helps increase their ratio of inputs to outcomes when compared to their co-workers.

2.2.2.3 Goal Theory

Another theory usually considered under the heading of motivation to work is goal theory, or the theory of goal-setting. This theory is based mainly on the work of Locke. The basic premise of goal theory is that people's goals or intentions play an important part in determining behaviour. Locke accepts the importance of perceived value, as indicated in expectancy theories of motivation, and suggests that these values give rise to the experience of emotions and desires. People strive to achieve goals in order to satisfy their emotions and desires. Goals guide people's responses and actions. Goals direct work behaviour and performance and lead to certain

consequences or feedback. Locke subsequently pointed out that 'goal-setting is more appropriately viewed as a motivational technique rather than as a formal theory of motivation'.

Practical implications for the School Leaders

Goal theory has a number of practical implications for the Supervisors:

1. Individuals lacking in motivation often do not have clear goals. Specific performance goals should systematically be identified and set in order to direct behaviour and maintain motivation.
2. Goals should be set at a challenging but realistic level. Difficult goals lead to higher performance. However, if goals are set at too high a level or are regarded as impossible to achieve, this can lead to stress and performance will suffer, especially over a longer period.
3. Complete, accurate and timely feedback and knowledge of results is usually associated with high performance. Feedback provides a means of checking progress on goal attainment and forms the basis for any revision of goals
4. Goals can be determined either by a superior or by individuals themselves. Goals set by other people are more likely to be accepted when there is participation. Employee participation in the setting of goals may lead to higher performance. Much of the theory of goal-setting can be related to the system of management by objectives. Management by Objective (MBO) is often viewed as an application of goal-setting, although it was devised originally before the development of goal-setting theory. However it is viewed, the theory of goal-setting provides a useful approach to work motivation and performance. And *Hannagan* goes so far as to suggest: 'At present goal-

setting is one of the most influential theories of work motivation applicable to all cultures.'

2.3 Types of Motivations

There are two types of motivation as originally identified by Herzberg, Mausner and Snyderman (1957). These are intrinsic and extrinsic motivations and both can be applied to teacher motivation.

2.3.1 Intrinsic Motivation.

These are self-generated factors that influence people to behave in a particular way or to move in a particular direction. These factors include responsibility (feeling that the work is important and having control over one's own resources), autonomy (Freedom to act), scope to use and develop skills and abilities, interesting and challenging work and opportunities for advancement (Armstrong, 2007).

2.3.2 Extrinsic Motivation.

These are what are done to or for people to motivate them. This includes rewards, such as increased pay, praise, or promotion, and punishments, such as disciplinary action, withholding pay or criticism. Extrinsic motivators can have an immediate and powerful effect, but it will not necessarily last long (Armstrong, 2007). These are influences by external factors such as salary, providing better working and living conditions and opportunities for in-service training.

The intrinsic motivators, which are concerned with the 'quality of working life', are likely to have a deeper and longer-term effect because they are inherent in individuals and not imposed from outside. They come from within. Teachers have both intrinsic and extrinsic needs. A teacher who is intrinsically motivated may be observed to undertake a task for its own sake, for the satisfaction it provides or for the

feeling of accomplishment and self-actualization. On the other hand, an extrinsically motivated teacher may perform the activity/duty in order to obtain some reward such as salary. Extrinsic motivation plays an important part in people's life. It is pre-eminent in influencing a person's behaviour.

2.4 Motivation as a Concept within the Teaching Profession

The most important human resource in the education institution that enables it to achieve its core mission is the teacher (Kruger & Van Schalkwyk, 1997). The teacher is the full-time classroom practitioner whose main function is more instructional in approach than managerial. He/she offers formal instruction to learners and his/her professional activity involves the transmission of knowledge, attitudes and skills to learners enrolled in an educational programme in a school (Van Amelsvoort, Hendriks & Scheerens, 2000). According to Barmby (2006), teachers perform their tasks for three main reasons: altruistic, intrinsic and extrinsic reasons. However, the reasons for choosing the profession as a career are predominantly related to altruistic and intrinsic stimuli (Moran, Kilpatrick, Abbott, Dallat & McClune, 2001) and maintaining a whole hearted passion for teaching and leading requires not only skill *per se* but excellence, inner strength and a strong spirit (Jackson & Jackson, 1999).

2.5. Concept Teacher Motivation

Motivation has many different definitions, but it is important to focus on those that are related to the field of education. The definition of motivation starts with the root word, motive. Webster's Dictionary (2014) defines motive as, something that causes a person to act. Therefore, motivation can be defined as, the act of providing motive that causes someone to act (Shanks, 2012). Williams (2010) also defined motivation as "predisposition to behave in a purposeful manner to achieve specific,

unmet needs and the will to achieve, and the inner force that drives individuals to accomplish personal organisational goals" (p. 12). Motivation is the creation of stimuli, incentives and working environments that enable people to perform to the best of their ability. The heart of motivation is to give people what they really want most from work. In return managers should expect more in the form of productivity, quality and service. Robbins and Judge (2013, p. 202) define motivation as the processes that account for an individual's intensity, direction, and persistence of effort toward attaining a goal. The three key elements in our definition are intensity, direction, and persistence. *Intensity* describes how hard a person tries. This is the element most of us focus on when we talk about motivation. However, high intensity is unlikely to lead to favorable job-performance outcomes unless the effort is channeled in a *direction* that benefits the organization. Therefore, we consider the quality of effort as well as its intensity. Effort directed toward, and consistent with, the organization's goals is the kind of effort we should be seeking. Finally, motivation has a *persistence* dimension. This measures how long a person can maintain effort. Motivated individuals stay with a task long enough to achieve their goal.

Teacher motivation has to do with teachers' attitude to work. Motivation refers to "the reasons underlying behavior" (Guay, Chanal, Ratelle, Marsh, Larose, & Boivin, 2010, p. 712). Broussard and Garrison (2004) broadly define motivation as "the attribute that moves us to do or not to do something" (p. 106). Intrinsic motivation is motivation that is animated by personal enjoyment, interest, or pleasure. As Deci, Koestelr and Ryan (1999), intrinsic motivation energizes and sustains activities of an individual which manifest in behaviors such as play, exploration, and challenge seeking that people often do for external rewards. Researchers often contrast intrinsic motivation with extrinsic motivation, which is motivation governed

by reinforcement contingencies. Traditionally, educators consider intrinsic motivation to be more desirable and to result in better learning outcomes than extrinsic motivation (Deci et al., 1999).

Motivation involves a constellation of beliefs, perceptions, values, interests, and actions that are all closely related. As a result, various approaches to motivation can focus on cognitive behaviors (such as monitoring and strategy use), non-cognitive aspects (such as perceptions, beliefs, and attitudes), or both. For example, Gottfried (1990) defines academic motivation as "enjoyment of school learning characterized by a mastery orientation; curiosity; persistence; task-endogeny; and the learning of challenging, difficult, and novel tasks" (p. 525). On the other hand, Turner (1995) considers motivation to be synonymous with cognitive engagement, which he defines as "voluntary uses of high-level self-regulated learning strategies, such as paying attention, connection, planning, and monitoring" (p. 413).

Indeed, motivated teachers have a sense of professionalism and are enthusiastic and totally committed to teaching. In this regard, Steyn (2002) identified the following signs of a high morale that is closely related to effective motivation: excellent performance and the consistent achievement of results, a positive attitude regarding problem solving and a willingness to accept responsibility and accommodate change. This will contribute to the effective realisation of the school's organisational vision, mission and goals. Consequently, in effective schools with motivated and well-committed Mathematics teachers, there is also an effective culture of teaching and learning.

Mathematics teachers are motivated in their work when they feel good. They feel good when the principal avoids 'professional myopia' and when teachers do not work in an uncompromising context. In this situation Mathematics teachers' job-

related ideals incorporate ethical, epistemological, affective, professional, economic and egocentric considerations which shape their views on equity and justice, pedagogy and androgogy, organisational efficiency, interpersonal relations, collegiality, self-conception and self-image (Evans, 2001). This implies that teachers are motivated when there is a "teacher-centered approach to educational leadership" (Evans 1999, p. 160). This approach is only possible when the principal as an educational leader, over and above his/her management role, endeavours to meet as many individual needs as possible and leads the teachers with considerable care, a positive attitude and interest in their welfare. A principal guided by this approach develops a work context that is underpinned by a professional culture of tolerance, cooperation, compromise and consideration of the Mathematics teachers. Sergiovanni (1998) calls this approach the 'pedagogical leadership' approach.

2.6 Teacher Motivation in Ghana

This section of the review examines efforts that have been made by stakeholders to improve the working conditions of the teachers. The researcher through a review of current literature has spell out some motivation measures put in place by the Government and local communities to improve the existing challenges basic schools teachers face. Some of the motivational measures includes: The National Best Teacher Award Scheme, Teachers' Remuneration, Study-leave with Pay, Teachers' Promotions and Community Support for Teachers in the Ghana Education Service.

2.6.1 National Best Teacher Award Scheme (NBTAS)

Over the years, evidence from the Ministry of Education documents has demonstrated Government of Ghana's commitment to enhancing teacher motivation

for subsequent improvement in the quality of teacher professional practice (Ofori-Attah, 2007). One of these initiatives is the National Best Teacher Award Scheme (NBTAS), which was instituted in 1995 to acknowledge hard work and dedicated stewardship of teachers (Akyeampong & Asante, 2005; UNESCO, 2011). This award involves professional competitions at four stages: school, district, regional and national levels. The competition for this award starts with a nomination of deserving teachers at the school level by their respective principals to compete at the district level. The overall winner of a district competition represents the district at the regional level. Similarly, the overall winner of a regional competition represents it at the national level (Akyeampong & Asante, 2005).

At the national level, there are usually ten competitors representing the ten regions. Unlike the district and regional competitions that usually have fixed venues at the district or regional capitals, the venue for the national competition determined by the organizers may fall in any of the ten regions but normally in the capital, Accra. A lot of criteria relating to professional competence and commitment are taken into account in the choice of a winner of this prestigious award. Some of which include the quality of lesson notes, teaching and learning materials, the quality of lesson delivery and classroom management techniques; and performance outcomes of students' among others. The prizes at stake for this competition differ in magnitude and quality according to the stage of the competition. For instance, at the school level, winners may receive merit certificates and some small money, usually a hundred Ghana Cedis (GH¢ 100.00) (Akyeampong & Asante, 2005). At the district level, winners normally receive fridges, roofing sheets, bicycles and tape recorders. At the regional level, winners normally receive prizes ranging from motorcycles to small cars. At the national level, the overall winner of the Best Teacher Award may receive a beautiful

two-bedroom house or money equivalent and a car which is more expensive and luxurious than that received at the regional level. The runner-up normally receives a car and cash prize lesser in value though (Akyeampong & Asante, 2005). This prestigious award has its own setbacks. The UNESCO synthesis report of 2011 focusing on 2002 presidential report on the National Best Teacher Award Scheme has indicated that teacher selection for this award is controversial. Many teachers have raised concerns about the selection processes and claimed the award does not extend the Government's appreciation to all teachers who are working hard for the country's educational development (UNESCO, 2011). The Government of Ghana has responded positively by proposing to have a more transparent process of selection and to expand the coverage to include not only teachers but also the schools that facilitate the award winning (UNESCO, 2011). However, up to date, the Government is yet to implement the proposal.

2.6.2 Teachers' Remuneration

Allowances covering accommodation cost, uniform cost and utility bills included in teachers' salaries also form part of the motivation package for teachers in public pre-tertiary schools in Ghana. Because of this initiative the Government does not provide accommodation, uniform and pay utility bills for teachers. As a result, most of the teachers live in private houses and just a few are privileged to live in government houses and pay rent at the end of the month to the Government. An annual medical allowance of about fifteen Ghana Cedis (GH¢ 15.00), which cannot pay for a single consultation with a doctor, is also due a teacher who produces genuine medical reports. A single consultation with a doctor may cost the equivalent of $47.50. As of 2011, a graduate professional teacher up to the professional rank of Assistant Director II (the third promotion after recruitment) for instance, takes about

eight hundred Ghana Cedis (GH¢ 800.00) as take-home salary per month depending on the person's added responsibility like principal of a basic school (primary or junior high school). The other responsibilities that go with such remuneration are: Assistant principal (for both basic and senior high schools), Senior Housemaster/mistress, Housemaster/mistress, Head of Department or Form master/mistress (for only senior high schools). Within the Ghana Education Service one key determinant of a teacher's salary is his or her number of years in a rank, technically called step or incremental jump. A step or incremental jump is a yearly salary increase that teachers get on the first of September each year in order to differentiate them from those on the same rank but juniors in terms of job experience. This means that two teachers could be in the same rank but their salaries could differ depending on who between them was promoted earlier. As stated earlier, the condition of low salaries perhaps compels most teachers to involve in part-time teachings and other engagements like selling of general goods at the market to earn extra income to augment what is received from the state to the detriment of their pupils.

2.6.3 Study-leave with Pay

The study leave with pay concept in Ghana is an opportunity given to teachers to pursue further studies mainly in the Universities and still draw salaries during their periods of absence. The duration of the leave is normally up to a maximum of four years. The initiative is aimed at enhancing teacher professional development required for quality classroom delivery (Agezo, 2010). As a motivation policy, the Ghana Education Service grants the leave to all of its professional teachers. However, preference is given to those who sacrifice to serve in deprived areas to urban areas (cities or towns). In this sense, it takes teachers who serve in deprived areas a minimum of two years to qualify for study leave with pay as compared to a minimum

of five years in the case of teachers who serve in urban areas. Also, priority is given to those who apply for study leave with pay to study in key areas like Mathematics, Science, Information and Communication Technology (ICT) and English Language. Teachers who propose to study in other areas like; Ghanaian Language, Social Studies, Management and Accounting studies, Home Economics, Visual Arts directly related to classroom teaching and Educational Administration and Management are also considered on a priority basis.

2.6.4 Teachers' Promotions

A teacher qualifies to be the headmaster or headmistress of a senior high school only when the person attains the rank of Deputy Director (the third highest rank). The various ranks in the Ghana Education Service from the lowest to the highest are: Superintendent II; Superintendent I; Senior Superintendent II; Senior Superintendent I; Principal Superintendent; Assistant Director II; Assistant Director I; Deputy Director; Director II; and Director I. A teacher with Diploma certificate begins on the rank of Senior Superintendent II whiles a teacher with a Bachelor's degree begins on the rank of Principal Superintendent. A teacher with Master's degree also begins on the rank of Principal Superintendent. However, the teacher gets two incremental jumps of salary ahead of the colleagues. Qualification for promotion in the Ghana Education Service depends on a number of conditions. First, the teacher must have a satisfactory work history for a minimum of three consecutive years including period of approved leave for those who accept posting and teach in deprived areas; and five consecutive years including period of approved leave for those who teach in urban areas. Second, the teacher must have a satisfactory appraisal from his or her supervisor who is normally the principal of the school in which a teacher teaches. If a principal is seeking promotion, the person is appraised by the Director of

Education of the district or province he or she serves. Third, the teacher must pass an interview. Available literature (Agezo, 2010; Salifu, 2013; Tanaka, 2010), however, indicate that the promotion initiative has not been effective in achieving its intended purpose of motivating the teachers because it is based on long service. The teachers rather prefer a system of promotion based on academic qualification (Salifu, 2013).

2.6.5 Community Support for Teachers in the Ghana Education Service

Apart from the Government of Ghana's efforts at ensuring a motivated teaching profession at the public pre-tertiary level in Ghana, it is important to acknowledge also that parents are doing a lot to support teachers at this level. In most parts of Ghana, especially in the rural setting, community support is always mobilized to motivate teachers to accept posting and remain at post to offer quality professional practice. In doing this, parents have been collaborating with teachers in many ways including the formation of Parents/Teachers Associations (PTA's).

The essence of these associations is to afford parents and teachers the opportunity to meet periodically to discuss issues bordering on academic work and general welfare of teachers. Through these associations most teachers, especially those in the senior high schools, have been privileged to have decent and secure accommodation as well as means of transport to and fro school. This initiative has been possible through the payment of termly PTA dues and special voluntary contributions by parents. Also, through other regular contributions by parents, teachers in some schools get additional income called teacher motivation allowances to supplement their monthly salaries. The money accrued from this contribution is shared at the end of every school term by both teaching and ancillary staff of senior high schools in the ratio of 80% and 20% respectively (Salifu, & Agbenyega, 2013).

2.7 Factors Influencing Teacher Motivation

A survey of literature on teacher motivation reveals many of the work environment factors that determine the motivation of Senior High School teachers. The driving factors are diverse and they may interact rather than be independent of each other (Fidler & Atton, 1999). These include principal as a teacher motivator, teaching and learning material as a motivator, incentives, and students' performance. The most important human resource in the education institution that enables it to achieve its core mission is the teacher (Kruger & Van Schalkwyk, 1997). The teacher is the full-time classroom practitioner whose main function is more instructional in approach than managerial. He/she offers formal instruction to learners and his/her professional activity involves the transmission of knowledge, attitudes and skills to learners enrolled in an educational programme in a school (Van Amelsvoort, Hendriks & Scheerens, 2000). According to Barmby (2006), teachers perform their tasks for three main reasons: altruistic, intrinsic and extrinsic reasons. However, the reasons for choosing the profession as a career are predominantly related to altruistic and intrinsic stimuli (Moran, Kilpatrick, Abbott, Dallat & McClune, 2001) and maintaining a wholehearted passion for teaching and leading requires not only skill *per se* but excellence, inner strength and a strong spirit (Jackson & Jackson, 1999).

2.7.1 The School Head as a Teacher Motivator

The principals play significant role in motivating teachers. Indeed, the key role of the principal is leading the staff and shaping an environment in which teachers can do their work best (Marshall, 1993). The teacher needs the full support of the management to be motivated (Murthy, 2003). The principal has the responsibility to practise effective instructional leadership as this contributes to high teacher morale. Furthermore, by understanding the roots of motivation, leaders can create positive

motivation and elicit effective teaching from all their staff (Chan, 2004). Consistent with this view, Smit (1994) points out that knowledge about the various theories of motivation and their constructive application assists the principals in their management tasks and thus contributes positively to motivating personnel. Steyn (2002) argues that effective principals are able to create an ethos that generates motivated and successful teachers and stimulated and inspired learners in an effective school setting.

There is thus a relationship between teacher motivation and the execution of the principal's instructional leadership responsibilities. The principal can influence teacher motivation by concentrating his or her leadership on two aspects, namely, the bureaucratic and structural aspects and the informal aspects respectively (Kruger, 2003). By means of the instructional leadership task, he or she can influence the organisational culture of the school by emphasizing academic aspects such as staff development programmes, involving teachers in decision-making, providing resources, supervision and the provision of instructional time. Scholars argued that teacher turn to motivate when their superiors provide effective supervision. When teachers detect that the principal or superior is incompetent to carry out supervision themselves and would depend on outside supervisors rather de-motivate them. Inevitably, in the course of time, the whole teaching profession is discouraged and loses confidence in its' own competencies (Abdo, 2001; Masitsa, 2005).

Headmasters or headmistresses may also inspire motivation in teachers through their own behaviour at schools. According to Barnett and McCormick (2003), inspirational motivation occurs when leaders motivate and inspire teachers, who are followers, by providing meaning to and challenges in their work, for example, by

giving inspirational talks, communicating their vision and acting in ways that inspire enthusiasm.

Furthermore, Heads of the institutions can motivate through building cordial relationship with their staff and between staff. The headmaster or headmistress as a visionary leader should build commitment among teachers, individually and collectively, and motivate them to work effectively towards the realisation of the school's core mission. This is because research has shown that when teachers' needs for affiliation through collegial relationships with their colleagues and superiors are not met, they feel dissatisfied. They experience a lack of such relationships because of the hierarchical nature of schools and teachers' habits of working alone. Moreover, disharmonious relationships among teachers and their superiors lessen dedication and motivation in teachers (Leibowitz, 2003; Lethoko, et al, 2001).

2.7.2 Rewards or Incentives

Rewards and incentives serve as another factor in teacher motivation. Most organizations have gained the immense progress by fully complying with their business strategy through a well-balanced reward and recognition programs for employees. The entire success of an organization is based on how an organization keeps its employees motivated and in what way they evaluate the performance of employees for job compensation. At times school management focused on the central government to reward had working teachers. Interestingly, intangible or psychological rewards like appreciation and recognition plays a vital role in motivating employees and increasing their performance. Rewards and recognition that the employees views as positive should improve job satisfaction and performance (Dunford, 1992). Goal setting can provide a number of these employee rewards as individual employees can negotiate desired outcomes with management. According to Robbins et al. (1998), the

employee who plays an integral part in the development of these goals is more likely to perceive the outcome as being achievable and to be committed to achieving them. Andrew and Kent (2004) conclude that commitment of employees is based on rewards and recognition. Rewards shape the course of behaviour of employees of an organization. Employees are aware that if they behave in a certain way or do certain things, the system or organization will reward them (Afful-Broni, 2004).

Harris (2000) notes that reward serves as a reinforcement factor to desired behaviours and acts as an incentive for those behaviors to recur in the future. Effective compensation plans reward performance, loyalty, experience, responsibility and other behaviours. Richmond (1978) found that though money was not a major reason teachers gave for entering the profession, it ranked second (after inefficacy) as a reason for leaving. Richmond speculated that, anticipating rewards intrinsic to the work could result in teachers willing to forgo high salaries. However, when confronted with the frustration of those expectations, the fact that they are sometimes paid less than the bus driver who brings their students to school may become a considerable source of dissatisfaction as well.

Vroom's theory is based on the belief that employees' effort will lead to performance and performance will lead to rewards (Vroom, 1964). Rewards may be either positive or negative. The more positive the reward the more likely the employee will be highly motivated. Conversely, the more negative the reward the less likely the employee will be motivated. To be effective, rewards must be linked to performance, goals must be reasonable, and the outcomes must be negotiated. Skinner (1969) indicated that what an organisation appears to reward is the behaviour that will be seen as the model for success. Vroom advised managers to state which behavior that will be rewarded and which ones will not, and to tie rewards to individual

performance. Other researchers like Kreitner, (1989); Winslow, (1990) have indicated that skinner overemphasised the importance of external outcomes such as pay and promotion, ignored the role of internal outcomes such as feelings of accomplishment and recognition and failed to consider the importance of individual needs and values. But then, leaders should strike a balance between internal and external motivators.

Carraher, Gibson and Buckley (2006) advocate that there should be an effective reward system to retain the high performers in the organisation and reward should be related to their productivity. In order to maximize the performance of the employees organization must make such policies and procedures and formulate such reward system under those policies and procedures which increase employee satisfaction and motivation. Bishop cited in Robbins and Judge (2013) suggested that pay is directly related with productivity and reward system depends upon the size of an organisation. Organisations in today‘s competitive environment want to determine the reasonable balance between employee loyalty and commitment, and performance of the organisation. Efficient reward system can be a good motivator but an inefficient reward system can lead to demotivation of the employees.

A well planned reward system in a school strives for internal and external equity. Internal equity requires that pay be related to the relative work of jobs so that similar jobs get similar pay. External equity means paying workers what comparable workers of other firms in the labour market are paid (Electricity Company of Ghana Human Resource Plan, 2006). No consensus exists on the extent to which financial inducements are the really critical motivators. Research has shown that monetary reward in itself has not improved teachers' low esteem and their productivity. Youlonfoun (1992) argues that, although good salaries and their prompt payment are important motivating factors, there is evidence that other factors can undermine

commitment to teaching. Not surprisingly, Akinwunmi (2000) and Ejiogu (1983) found that what the typical low income earning teacher yearns is a sizeable salary increase, and they conclude that internal recognition and rewards would significantly enhance their commitment and performance.

2.7.3 Work Environment as Teacher Motivator

According to Clements-Croome (2000), the physical conditions of a school either motivate or de-motivate teachers. Poor physical working conditions, such as, dilapidated classrooms, inadequate furniture and broken windows and teaching resources that are not to standard, such as, a lack of textbooks, overhead projectors, audio-visual aids and computers are all de-motivating factors. Teachers want to be provided with the opportunities and challenges (job autonomy) to experiment and innovate in their classes. This does not only imply work autonomy, but also the availability of crucial teaching aids to enhance the teaching/learning experience. In many schools, classes are held outside in the open air with learners. Even though teachers want to improve materials, they cannot because of a lack of funds. Both teachers and the community value new, attractive and properly maintained facilities and infrastructure. Indeed, facilities that are well-cared for by all the teachers and other users in the school tend to motivate everybody concerned who then are likely to make optimum use of these facilities. Thus, the teachers' effectiveness and motivation are enhanced (Abdo 2001; Lethoko et al., 2001; Kloep & Tarifa, 1994; Young, 2002).

According to Macfie (2002), it is important for school management to provide standard teaching and learning materials, decent classrooms and furniture where everyone is highly motivated and feels to teach. Macfie adds that if staff look after their health as result unfavorable conditions in the school, they will be better in their own lives and in the teaching. If people feel better about the way they manage, their

lives they will be more creative and more productive in the way they contribute at work.

Also work overload is exacerbated by bureaucracy, paperwork and administrative tasks. Increasing formal demands are made on teaching, such as, monitoring, assessment, reporting, recording and accountability teams. As a consequence of various so-called educational reforms, that have been and are being introduced in the developed world, teachers feel overwhelmed and dispirited. They also feel that they are not compensated accordingly for their increased workload. Dissatisfaction with the workload inevitably leads to low motivation (Barmby 2006; Campbell 1999; Stewards & Spence 1997). Dilani (2004) researchers are increasingly finding links between employee health and aspects of the physical environment at work such as indoor air quality and lighting. Contemporary literature on stress in the work environment typically focuses on psychosocial factors that affect job performance, strain and employee health. Some theoretical models of stress at work have included the physical environment as a factor.

Kavarlemo (2000) on the other hand re-affirms this in a study by the application of Maslow‘s hierarchy of needs theory of motivation in a school situation and stated that teachers need a wage sufficient to feed, shelter and protection of their families if they are to dedicate their energies and time to school obligations other than for survival. Ouma (2007) also added that teachers need assurance of sustainability of above basics so as to continue pursuing organizational goals. Carron (1996) noted that the teaching profession has suffered greatly from the negative effects, from the economic crisis and adjustment policies which have had severe impact in the standard of living of teachers. This phenomenon has had severe effect on their morale, their sense of commitment and motivation. In agreement, Coombs (1985) cited that when

teachers' salaries fail to keep pace with the cost of living they undergo a reduction in real income, their morale suffers and the able ones shift to better paying jobs thus pulling down the quality of instruction. Gavinda and Varghese (1993) looked at this scenario and affirmed that where teachers are disillusioned and frustrated about conditions of service, the quality of education is likely to deteriorate even with substantial input of equipment and material. However they conclude that if a teaching force is reasonably paid, and well-motivated, they can achieve much for the quality of education even against great odds.

Kasaija (1991) studied about the effects of monetary and non-monetary rewards on motivation of teachers. He established that both monetary and non-monetary rewards are motivators to teachers. Similarly, Situma and Iravo (2015) citing Ogomarch (1994)'s study agrees with this assertion, that professional allowances have great significance in motivating lecturers to do their work effectively. According to Grusky (as cited in Alam & Farid, 2011), rewards are among the most important factors which influence the strength of a person's attachment to an organization. Grusky says that if a person discovers that he cannot obtain the rewards he originally desired, he either leaves the organization or joins another, or if it is not feasible, he accepts those rewards which he can obtain and at the same time feels less committed to that organisation. On the other hand, obtaining rewards sought operates to further his felt obligation to the organisation and this commitment is strengthened.

According to Mumanyire (2005), the most important motivator to the teacher is money which can be in form of salaries, allowances, wages, bonuses, duty allowances and other monetary rewards. However, other factors such as actual teaching conditions, the environment in which the school is located, teacher

participation in matters which affect them, job security and level of commitment to the school's objectives are all crucial to the level of motivation of teachers. Similarly, Armstrong (1996) emphasizes the value of financial rewards when he says that money provides the means to achieve a number of different ends. Kiseesi (1998) in her study about job satisfaction of workers recommends that, salaries of the workers should be paid promptly and that promotion of workers should have a corresponding increase on the salary they earn. Therefore from the above expression, financial rewards have greater effects than non-financial rewards on the performance of primary school teachers. According to Farrant (1997), in many countries the morale of teachers is low because they possess no great status, lack promotion opportunities, are poorly paid and have to teach under unsatisfactory conditions. Farrant's argument is reflects the situation in district of study where the primary school teachers have inadequate and at times poor accommodation, limited teaching and learning facilities amidst poor supervision and inspection. In addition there is a problem of poor remuneration reflected in inadequate salaries or low or no allowances for those teachers who are not on civil service pay roll. Consequently, poor working environment and low remuneration have attracted few qualified (trained) teachers in the area and have contributed to low morale of teachers in general thereby leading to their low levels of their job performance.

2.8 Impact of Motivation on Teachers' Performance

Teachers are the most important resource in curriculum implementation. Through their individualized professional competence, they provide good services to students and also to the nation as a whole. Finer (2000) notes that teacher's performance level never exceeds 50% of an individual capacity to perform particularly when not effectively motivated. Motivation involves the energy and drive to learn, work

effectively, and achieve potential (Martin, 2003). The motivation of a teacher in a school is, therefore, very important as it directly affects the students. In order for employees to maintain a high level of professional performance, they must assume personal responsibility for their own performance, growth and development (Alam & Farid, 2011). Organisations have to obtain and utilize human resources effectively. Organisations, therefore, need to design its human resource management in ways that fit into the organisation's structure as this will make them achieve their goals and objectives.

2.8.1 Concept of Performance

Performance is something, a single person does. Performance of a Mathematics teacher is affected by motivation. Mathematics teachers are motivated when their performance automatically reaches high level of job performance. In schools Mathematics teacher's performance can be mapped well through arranging training programs for the teachers and they will get motivated and their confidences will also increase. Motivation has a direct and positive effect on job performance when we properly account for effort. Effort has a positive effect on job performance. The idea that motivated employees are more productive held through the 1970s. However, it was difficult to obtain support for the view that motivation has a significant effect on job performance.

2.8.2 Motivation and Teachers' Performance

Griffin (1990) explored that the performance of an individual is determined by three factors, these are motivation, work environment and ability to do the work. Chandrasekar (2011) examined that the workplace environment impacts on employee morale, productivity and job performance both positively and negatively. If the

workplace environment is not liked by the employees so they get de-motivated and their performance also affected. Poorly designed work timings, unsuitable authorities or duties, lack of appreciation, and lack of personal decision making opportunity. People working in such environment are not satisfied they feel stress on themselves and it impacts on an employee's job performance.

In other research, Adeyemi (2010) investigated the relationship between the leadership styles of principals and teacher's job performance in secondary schools. Adeyemi found that the principals mostly used democratic leadership style in schools as compared to autocratic style. It was the most commonly used leadership styles of principals in the schools. Adeyemi study also determined that there is a direct relationship between leadership styles used by Principals and teacher job performance. Adeyemi study concluded that the performance of teachers is better in those schools where principals are having autocratic leadership styles as compared to those schools where Principals are having a democratic style of leadership. Thus, the autocratic style is the best style of leadership that can improve the productivity and performance of teachers in schools. Adeyemi also recommended that the principals should use both autocratic and democratic leadership styles in their schools from situation to situation in order to improve teacher's job performance. Like, in certain situations they could apply autocratic style where it is applicable while in some situations they could use the democratic style.

Organisation's success can only be achieved by the satisfied and motivated employees and good leadership (Malik, Danish & Usman, 2010) Therefore, a good leadership style is required to lead the teachers and to enhance their teaching skills. Davidson (2005) focused on the role of teachers in providing good quality education in primary schools through motivation where it suggested some initiatives to increase

the teacher's level of motivation that will improve the education system. The organisational culture affects the performance of the employees positively or negatively. As an organisation different employees from different background and culture with different languages, so their thinking level is also different. When organizations do not make a proper culture in employees will definitely feel stress because of bad communication between employees and their superiors and performance towards their job will not meet the set standards. Davidson (2005) study found that the bad working and living conditions have an adverse effect on the teacher's performance. It is essential to consider the terms and conditions of service for the purpose of motivating and retaining teachers (Kadzamira, 2006).

According to Nadeem, et al. (2011) social and economic conditions of Mathematics teachers have an effect on their performance that is low salary, lack of facilities, status of teachers in society, teachers mental health and morale, stress of work, relation with staff and head teachers, working environment are all those factors that have an strong impact on females Mathematics teachers' performance. The level of motivation of teachers reduced, when there is a poor social and economic condition in the place where the school is located. It was concluded that there is a significant relationship between these factors of motivation and the efficiency of female Mathemathics teachers. Mustafa and Othman (2010) examined the perceptions of high school teachers about the effects of motivation on their performance at work. They found that there is a positive relation between motivation and working performance of teachers, i.e., the greater the level of motivation the higher will be the Mathematics teacher's job performance or if provide a high level of motivation to a Mathematics teacher then their job performance will be increased. The main benefits of motivation are that the organisation can use the human resources in an appropriate

way, for this the employees are willing to work which brings employees satisfaction and the goals can be achieved on time in organizing. In this way, the efficiency increases and its cost become reduced.

Alam and Farid (2011) found that mostly Mathematics teachers experienced that they were paid less salary, according to their knowledge, skills and capabilities for doing their job. Thus, respect should be given to teachers, provide them training to exceed their performance level and salaries should be designed according to their capabilities, experience and skills regarding the job. Analoui (2000) asserts that low Mathematics teacher motivation is reflected in deteriorating standards of professional conduct, including serious misbehaviour (in and outside of work), and poor professional performance. Mathematics teacher absenteeism is unacceptably high and rising, time on task is low and falling, and teaching practices are characterised by limited efforts with heavy reliance on traditional teacher-centred practices. Mathematics teachers are devoting less and less time to extra-curricular activities, teaching preparation, and marking of exercises.

2.9 Summary of the Literature Review

The theoretical framework of this study was based on Herzberg's Two–Factor Theory of Motivation. The researcher reviewed literature pertaining to the factors influencing Mathematics teacher motivation. Regarding the effect of reward system on Mathematics teacher motivation, it was found that appreciation from heads of institutions, promotion to higher ranks to enhance salaries and other financial gains other than their salaries influence motivation among Mathematics teachers. Also the literature indicates that well classroom arrangement and availability of teaching and learning resources affect Mathematics teachers' motivation. This means that a wide

variation of factors needs to be considered to motivate Mathematics teachers to help them perform well on their job.

CHAPTER THREE

METHODOLOGY

3.1 Overview

This chapter presents the methodology of the study. The chapter is organised into the following headings: research design, research setting, population, sample and sampling techniques, research instruments, pilot study, data collection, data analysis procedures and ethics considerations.

3.2 Research design

The study adopted the mixed method approach. According to Creswell (2009), mixed methods research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. To him the core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone. Corroborating this view, Johnson and Onquegbuzie, (2004) postulate that mixed methods research can be viewed as an approach which draws upon the strengths and perspectives of each method, recognizing the existence and importance of the physical, natural world as well as the importance of reality and influence of human experience. Mixed methods research therefore, is all about adopting a research strategy which employs more than one type of research method. The methods may be a mix or qualitative and quantitative methods, a mix of quantitative methods or a mix of qualitative methods.

In this study, the concurrent triangulation mixed method research design was used for data collection and analysis. That is, using numerical and verbal data in order

to gather reliable and valid results. The design was used to explore and explain factors determining public basic school Mathematics teachers' motivation in the Awutu Senya West District of the Central Region of Ghana and the effects of these motivational packages on their job performance. According to Creswell, Plano Clark, Gutmann and Hanson (2003), a mixed method design involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research. Elliot (2005) opines that the fundamental principle of mixed method research is that the combination of quantitative and qualitative approaches provides a better understanding of the problem than either approach can achieve alone. Creswell and Plano Clark (2010) argued that the mixed method research design provides strength to the weakness of quantitative and qualitative research design. Thus, the design is able to offset the weakness of both quantitative and qualitative research design used separately in a study. They further argued that the mixed method provide researchers the opportunity to draw on a wide range of tools of data collection in order to comprehensively study and understand a problem. In addition, mixed method research also helps answer questions that cannot be answered by a single approach. It also encourages collaboration of researchers across the two fields of inquiry.

This design however has its own challenges which are associated with it. For example, Plano Clark (2010) cautioned that the design requires having certain skills, time, and resources for extensive data collection and analysis. Plano Clark is of the view that the most challenging perhaps, is educating and convincing others of the need to employ a mixed methods design so that a researcher's mixed methods study will be accepted by the scholarly community.

Morse in 1991 came out with two main types of mixed method research and they are: simultaneous and sequential (Creswell, Plano Clark, Gutmann, & Hanson, 2003). Subsequently, other researchers including Creswell and Plano Clark (2007) and Tashakkori and Teddlie (2003) have also enumerated types of this design to include: sequential explanatory, sequential exploratory, sequential transformative, concurrent transformative, concurrent embedded and concurrent triangulation design.

When measuring and exploring the nature of factors determining public basic school Mathematics teachers' motivation and the effects of these motivational packages on their job performance, a mixed method concurrent triangulation design is perhaps one's best choice. In the case of concurrent triangulation, the quantitative data collection and qualitative data collection are concurrent, happening during one phase of the research study. Ideally, Creswell and Plano Clark (2007) opined that priority would be equal between the two methods, but in practical application, the priority may be given to either the quantitative or the qualitative approach. This design usually integrates the results of the two methods during the interpretation phase. This interpretation either may note the convergence of the findings as a way to strengthen the knowledge claims of the study or must explain any lack of convergence that may result. The method was selected as the design because the researcher uses two different methods in an attempt to confirm, cross-validate, or corroborate findings within a single study (Greene et al., 1989; Morgan, 1998; Steckler et al., 1992). Greene, Caracelli and Graham (as cited in Creswell & Plano Clark, 2007) stated that a triangulation mixed methods design works best when the "status of the different methods—that is, their relative weight and influence—is equal and when the quantitative and qualitative study components are implemented independently and simultaneously" (p. 259). The principle aim of this approach is "to obtain different but

complementary data on the same topic" (Morse, 1991, p. 122) and is used when seeking to develop qualitative results and quantitative data. This is true of the current study. The researcher wanted to explore factors determining public basic school Mathematics teachers' motivation in the Awutu Senya West District of the Central Region of Ghana and the effects of these motivational packages on their job performance. This traditional mixed methods design is advantageous because it is familiar to most researchers and can result in well-validated and substantiated findings. In addition, the concurrent data collection results in a shorter data collection time period as compared with that of the sequential designs. This design also has a number of limitations. It requires great effort and expertise to adequately study a phenomenon with two separate methods. It can also be difficult to compare the results of two analyses using data of different forms. In addition, it may be unclear to a researcher how to resolve discrepancies that arise in the results. Potential threats to this triangulation mixed methods design include both threats to data collection and threats to data analysis. Potential threats were minimized by using the same sample for both the qualitative and the first quantitative dataset of the study.

3.3 Study Area

The research was conducted in the Awutu Senya West District in the Central Region of Ghana. According to the Ministry of Finance (MoF), (2015), the assembly is situated between latitudes 5º20'N and 5º42'N and longitudes 0º25'W and 0º37'W at the eastern part of the Central Region of Ghana. The district is said to cover an area of 402.93 square kilometres, is bordered by the Awutu Senya East Municipal and Ga South Municipal (in the Greater Accra Region) to the East; Effutu Municipal and the Gulf of Guinea to the south; the West Akim District to the north; Agona East and Birim South to the North-West, Agona West District to the west, and the Gomoa East

separating the southern of the District from the main land. The pictorial representation (map) of the district is presented in Figure 3.1.

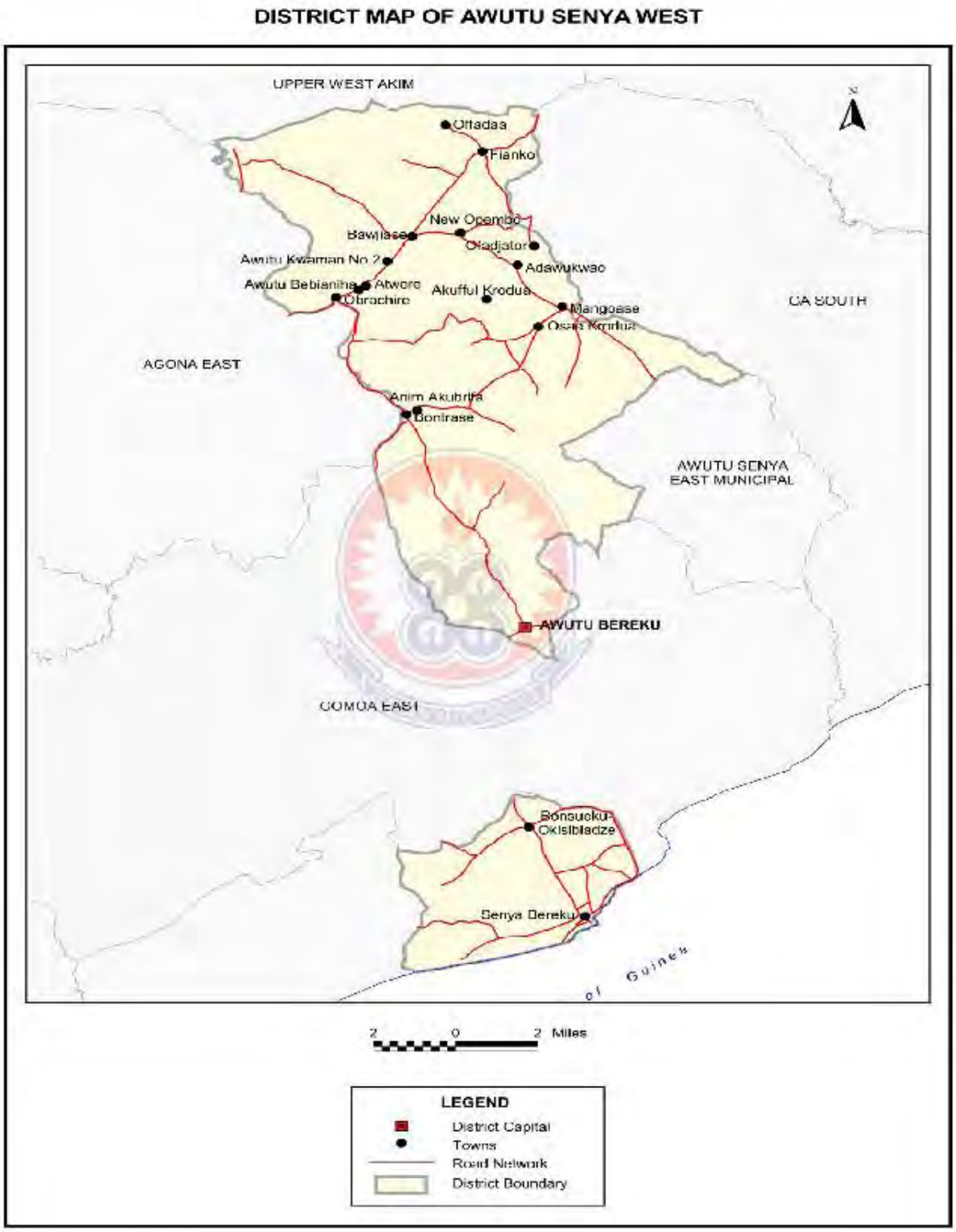

Figure 3.1 Awutu Senya District Map
Source: Ghana Statistical Service, 2010 Population and Housing Census

The Education Directorate in the district is made up of seven (7) circuits, namely Awutu, Bawjiase A, Bawjiase B, Bontrase, Obrachire, Senya Beraku and Jei-Krodua. These circuits in the district houses about 74 Kindergartens, 75 Primary Schools and 58 Junior High Schools (Ghana Education Service [GES], 2015). Obrachire, Senya Beraku and Bawjiase have a Senior High School in each community. However, there are two private Senior High Schools namely; Pank and Awutu Winton Senior High School. The non-existence of many educational institutions in the district like other district in the region does not immune it against the key issues bedeviling the educational sector in Ghana. Among these educational problems are: inadequate and inequitable access to higher education, particularly after the basic level and for persons with special needs; poor educational infrastructure; inadequate supervision; lacks of equipment such as computers, furniture and means of transport and the KG classroom accommodation is nothing to write home about. With the exception of the Plan Ghana assisted schools in the District, all the KG schools are not accommodated (GES, 2015).

Teachers and other stakeholders in the district are not only faced with problems enumerated above. Teacher-pupil ratio over the years has constantly been on the rise in the district. This was evident in the 2010 population census report. Ghana Statistical Service (2014) opines that, a total of 31,951 children were attending school. Of this total, 15,515 representing the highest proportion (48.6%) were in primary school. The proportion in Kindergarten and Junior High School were 1.9 percent and 17.5% respectively. Only 1.0% of the population is in tertiary schools. With the exception of SSS/SHS, there is not much variation between males and females at the various schooling levels. A total of 27,787 have attended school in the past. Of this total, 10,127 representing 36.4% have attended JHS constituting the

highest proportion of this group. There exist variations among males and females who have attended school in the past at the various levels. Apart from the primary and JSS/JHS lower levels where females are more than males, males are more than females at all levels of higher school attainment from the middle to the tertiary level.

3.4 Population

According to Ary, Jacobs and Rezavieh (2002), population refers to the entire group of individuals to whom the findings of a study apply. It is whatever group the investigator wishes to make inferences about. Agyedu, Donkor, and Obeng (2013) also opine that the term "population refers to the complete set of individuals (subjects), objects or events having common observable characteristics in which the researcher is interested in studying" (p. 89). They further stated that, the population may be finite or infinite. A research population is a large well-defined collection of individuals having similar features (Castillo, 2009). Castillo differentiates between two types of population, the target population and accessible population.

The target population is the total group of subjects to which a researcher would like to generalise the results of a study and accessible population is the group of subjects that is accessible to the researcher for a study from which the study sample can be drawn (Castillo, 2009). The target population for this study consisted of all lower primary school teachers (since they all teach mathematics) and headteachers in the Central Region of Ghana. The region has twenty districts with a number of low primary school mathematics teachers. However, the accessible population of this research consisted of all lower primary school Mathematics teachers and head teachers in the Awutu Senya West District.

3.5 Sampling Technique and Sample Size

A sample is a finite part of a statistical population whose properties are studied to gain information about the whole (Webster, 1985). On the other hand, sampling refers to the process of selecting a portion of the population to represent the entire population (Muijs, 2004; Alhassan, 2006). According to Mugo (2002) sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population.

Firstly, purposive sampling technique was used to select all circuit in the district for the study. Purposive sampling is selecting a sample "on the basis of your own knowledge of the population, its elements, and the nature of your research aims" (Babbie 2007). According to Creswell (2003) purposive sampling technique will enable the researcher to reach the participants quickly and to use those participants with very rich experiences to collect meaningful information for deeper understanding. In other words, purposive sampling was used in the study because it enabled the researcher to select individuals with requisite expertise and experiences that are central to the phenomena under study.

Secondly, the researcher used quota sampling techniques to select some basic schools from each circuit (see Table 3.1). A quota sampling according to Annum (2016) is a type of non-probability sampling in which the researcher selects people according to some fixed quota. Annum further opined that in this type of sampling technique the researcher uses his/her judgment to select from the population of the study. The researcher first stratifies the population into groups on the basis of pre-specified characteristics (age, sex, status, profession, place, race etc.) before using his

judgement to select from each strata based on a given number or quota to represent the sample. The reason for the quota sampling technique (selecting this sample size) was to allow the researcher to draw a small and manageable number of schools from each circuit based on the time and due to financial constraints. Because the circuits have different number of schools, different sample sizes were drawn with 70% drawn from areas with more over ten (10) schools, and 75% drawn from circuits with less or equal to ten (10) schools (approximation was used).

A total of fifty-six (56) primary schools in the district were therefore selected out of the total seventy-five (75) school. This brought the total number of public basic school mathematics teachers to three hundred (300). A sample frame of primary schools from which the sampled schools were selected is presented in Table 3.1.

Table 3.1: Sampling frame of Primary Schools by Circuit Areas

	Number of schools	Sample of School
Circuit 1	11	8
Circuit 2	9	7
Circuit 3	10	8
Circuit 4	13	9
Circuit 5	10	8
Circuit 6	12	8
Circuit 7	10	8
Total	**75**	**56**

One of the most important processes in sampling in a survey design is to determine the sample size that can be representative of the population from which it was drawn. In a descriptive survey research design, if the sample is well selected, the results of the study should be generalizable to the population (Gay, Mills & Airasian,

2009; Mertens, 2010). Different techniques can be used to ensure that the sample is representative; these techniques include determining the sample size, properly defining the population, avoiding sampling error and bias (Mertens, 2010). Determining sample size is concerned with how much data is required to make appropriate decisions on a particular study. If there is enough data, the amount of error is more likely to be reduced (Abraham & Russell, 2008). To ensure that teachers who participated in the study represented all relevant subgroups, the sample of teachers based on their training, grade level, and subject taught, years of experience and school level was selected (Gay, Mills, & Airasian, 2009). Purposively, all the public lower primary school mathematics teachers in the selected schools were requested to participate in the study. The sample of teachers was fairly well representative of the district. Table 3.2 presents the number of teachers sampled from each sampled school.

Table 3.2: Sample frame of teachers sampled from each sampled school

	Sample of Lower Primary School	Number of Teachers
Circuit 1	8	24
Circuit 2	7	21
Circuit 3	8	24
Circuit 4	9	27
Circuit 5	8	24
Circuit 6	8	24
Circuit 7	8	24
Total	**56**	**168**

In all the one hundred and sixty-eight (168) lower primary school Mathematics teachers selected from the sampled schools responded to the items on the questionnaire instrument. However, one teacher and headteacher from each of the

seven circuits were conveniently sampled to respond to the interview schedule. The inclusion of the headteachers brought the total sampled respondents in the study to one hundred and seventy-five (175).

3.6. Research Instruments

After a careful review of appropriate literature and considering expert judgment, questionnaire, semi-structured interview schedule and documentary analysis were chosen to gather the data for this study (see Appendices A and B). According to Ary et al. (2002), interview and questionnaire are the two basic ways in which data are gathered in survey research. The use of multiple data collection instruments ensure validity and reliability of data generated through triangulation.

3.6.1 The Questionnaire

The questionnaire was one of the instruments used to gather data for the study. As such, the researcher collected factual information on motivational packages contributing to and supporting lower primary school mathematics teachers' job performance. A Likert scale type questionnaire was developed to collect data for the research questions stated. Kusi (2012) asserts that, most research participants feel more comfortable responding to pre-determined response than items that require them to express their views and feeling.

The general benefits for which questionnaire was included in the study were: consistency of presentation of questions to the respondents, the assurance of anonymity for the respondents and the less time it takes to administer (Muijs, 2004) made it appropriate for this study which was time bound. Questionnaire was also found to be appropriate for the study because the study employed a cross-sectional survey design (Frankel & Wallem, 2000) and also it is probably the most common

data collection instrument used in educational research which is more familiar to respondents (Muijs, 2004). However, the disadvantages are that they often have low response rates and cannot probe deeply into respondents' opinions and feelings (Alhassan, 2006).

The study adapted the Minnesota Satisfaction Questionnaire (MSQ) to collect quantitative data on factors contributing to respondents' motivational state. The questionnaire contains thirty-seven closed-ended items. According to the manual for the Minnesota Satisfaction Questionnaire (MSQ) by Weiss, Dawis, England, and Lofquist (1967), "the MSQ is an instrument that measures job satisfaction or motivation with several different aspects of the work environment"(p.vi). The several different aspects of the work environment refer to the intrinsic and extrinsic factors that can lead to job motivation. The intrinsic and extrinsic factors can be assumed as motivators and hygiene factors in Herzberg's Two-Factor Theory of Motivation. The long-form MSQ was used because Weiss, et al. (1967) strongly recommended that the long-form MSQ provided much more information for the very short additional time that it additionally required than the short-form MSQ. Hyun (2005) opines that, even if the long-form MSQ had 100 items, class five readings speed could have the participants or respondents complete the questionnaire within 15 to 20 minutes at most. More importantly, the reliability and validity of the long-form MSQ were reported to be stronger than those of the short-form MSQ (Weiss, et al., 1967).

The questionnaire was divided into three main sections. The first section of the long-form MSQ asked the respondents to provide demographic information, thus gender, age, teaching experience among others. The second sub-section was designed based on the theoretical framework (Herzberg's Two-Factor Theory of Motivation) described in the literature which focused on the main motivational packages available

to basic school mathematics teachers in the Awutu Senya West District. The purpose of this section of the questionnaire was to document, using closed-ended items, the two different dimensions of motivation: intrinsic (motivator factors) and extrinsic (hygiene factors). A total of twenty seven (27) items were used in the second sub-section. All items measuring the motivational packages were anchored on a 5-point Likert-Scale (1 = not motivating to 5 = extremely motivation). Even though Weiss, et al. (1967) recommended the use of the whole of the long-form of the MSQ, the research based on experts' (supervisor) advice used thirty (30) items in six (6) scales. The six scales representing technical supervision, creativity, recognition, responsibility, working condition and educational policy were used from the original long-form MSQ because they were applicable to education whereas the other factors were not applicable. Each sub-scale containing five measurement items. The six (6) scales are classified into intrinsic and extrinsic motivation measures. The third sub-scale was designed to gather general quantitative data on basic school mathematics teachers' general job performance. The items on the job performance were also anchored on a 5-point Likert type scale (1 = strongly disagree to 5 = strongly agree).

3.6.2 Interview Guide

Noting the fact that questionnaires only could not provide an in-depth investigation of the specific phenomenon understudy, the researcher selected another research instrument-interview. According to Creswell (2002) an interview as a form in which the researcher poses a question and records answers supplied by the participant in the study. Mitchell and Jolley (2010) also opined that an interview is a survey in which the researcher orally asks participants questions. Finally, Ary et al. (2002) are also of the view that an interview is used to gather data on subjects' opinions, beliefs, and feelings about the situation in their own words. Ary et al.,

argued that interview is able to provide elaborate data and a forum for participants' sincere participation. Mitchell and Jolley (2010) opine that there are three main types of interviews namely; structured, semi-structured and unstructured interview. Mitchell and Jolley (2010) explained that, the structured interview is a type in which all respondents are asked a standard list of questions in a standard order. The semi-structured interview, like the structured interview is constructed around core standard questions. However, the interviewer may expand on any question in order to explore a given response in greater depth. Finally, Mitchell and Jolley postulated that with the unstructured interview, the interviewers have objectives that they believe can be best met without an imposed structure. The interviewer is free to ask what he/she wants, how he/she wants to, and the respondent is free to answer how he/she pleases.

A one-on-one semi-structured interview guide was used to collect qualitative data on the main challenges school authorities face in providing motivational packages to basic school mathematics teachers in the Awutu Senya West District. The interview was conducted for the respondents on different dates scheduled by both the researcher and the participants. This enabled the participants to express their views and concerns freely and explicitly. The responses were handwritten alongside the tape recording for easy analysis. The interview helped the researcher to establish the complexity of facts faced by head teachers in providing motivation to their teachers which was contributing to teachers' poor job performance. The guide was designed based on the issues emerging out of literature.

3.6.2 Documentary Analysis

The main sources of secondary data included the following: school reports to Municipal education office, teacher welfare committee minutes, Internet surfing, reviewing of magazines, newspapers, reports and publications, public records and

statistics. For orientation in the field, existing data sets like Awutu Senya West District local government records, census report, statistical abstract and textbooks were consulted. From these sources, location of the study area, population characteristics and existing literature related to the topic were obtained.

Creswell (2003) and Merriam (2001) contend that document analysis, as a data source, is as good as observation and interview. However, it could be argued that document analysis has the potential to reveal information that the interviewee is not ready to share and also information that may not be available during observation. The multiple data sources allow for triangulation of data to reduce bias and at the same time to develop a deeper understanding of the issues under study. This combination of several data collection strategies or methods is called triangulation (Creswell, 2003). Triangulation involves corroborating evidence from different sources to shed light on a particular theme or issue. Triangulation in qualitative research is important to validity issues such as checking the truthfulness of the information collected.

3.7 Pilot Study

To determine the strength and weakness of the Minnesota Satisfaction Questionnaire (MSQ) the questionnaire was pilot tested in the Effutu Municipality of the Central Region. A total sample of fifty lower primary (n = 50) Mathematics teachers were conveniently sampled for the pilot-test. The researcher used this sampling technique after taking into consideration time and other resources at her disposal. The researcher chose the municipality because it was deemed to have exhibited the similar characteristics as the district of interest to the researcher. The interview guide was also pilot-tested. The pilot-test helped the researcher to ensure the validity and reliability of both the questionnaire and the interview guide. Thus, the

pilot test process was meant to determine the strengths and weaknesses of the questionnaire, in terms of question format, wording and order of items. It was also meant to help in the identification of question variation, meaning, item difficulty, and participants' interest and attention in responding to individual items, as well as to establish relationships among items and item responses, and to check item response reliability (Mertens, 2010; Gay, Mills, & Airasian, 2009). Awanta and Asiedu-Addo (2008) asserted that pilot-testing the instruments enabled the researcher to modify items that were difficult to understand, reduce ambiguities and incorporate new categories of responses that were identified as relevant to the study.

3.8 Reliability

Reliability is important criteria for evaluating quantitative instrument. According to Howell (2002), reliability is the consistency with which the instrument measures the target attribute. This means that administering the same instrument by various researchers will provide the same results under comparable conditions. According to Garson (2006), reliability can be estimated in one of the following four ways; inter-rater reliability, split-half reliability, test-retest reliability, and internal consistency.

In this study, internal consistency was tested on the questionnaire (Minnesota Satisfaction Questionnaire (MSQ) by means of Cronbach Alpha statistics with the help of SPSS package Version 20. Cohen (1992) asserted that Cronbach Alpha is the most common means of testing internal consistency of a research questionnaire instrument. Cronbach's Alphas for each sub-scale under sections two and three of the questionnaire were as follows: Technical Supervision factor ($\alpha = 0.87$), Creativity factor ($\alpha = 0.91$), Recognition factor ($\alpha = 0.87$), Responsibility factor ($\alpha = 0.86$), Working Condition factor ($\alpha = 0.94$) and Educational Policy factor ($\alpha = 0.90$).

However, an overall Alpha (α) value of 0.95 was attained on the instrument. This indicated that teachers consistently responded to most of the items in the questionnaire for the final draft of Minnesota Satisfaction Questionnaire (MSQ) (see Appendix A).

Cohen, Manion and Morrison (2007) suggest that the reliability level is acceptable at 0.8. As a rule of thumb, values less 0.60 are unaccepted low reliability, 0.60 to 0.69 marginally/minimally reliable, 0.70 to 0.79 are reliable, 0.80 to 0.89 are highly reliable and values above 0.90 are considered very highly reliable (Bryman & Cramer, 1990, p. 71). The reliability results implied that the tool was suitable for assessing the effect of factors affecting teacher motivation on teacher performance in public basic schools in the Awutu Senya West District. The reliability coefficient of the interview guide was not calculated because the items on the interview guide were open-ended demanding free responses from the participants. A pilot study was however, conducted on a sample of 4 head teachers from Effutu Municipality of the Central Region to address ambiguities of the items.

3.8.1 Validity

Validity according to Ruland, Bakken, and Roislien, (2007), "refers to the degree to which an instrument measures what it is supposed to be measuring" (p. 45). In order to establish the validity of the instruments, the following validity tests were carried out: Face, and Content validity. According to Cohen (1994), face validity is where, superficially, the test appears– at face value – to test what it is designed to test. After developing the questionnaire, a group of graduate students from the University of Education, Winneba and other basic schools teachers, were requested to carefully and systematically scrutinize and assess the instrument for its relevance and face

validity. This was further achieved through the pilot testing stage. The feedback from the graduate students and teachers were factored into the final preparation of the instrument. Issues such as length of the items and general format of the questionnaire were some of the concern pointed out to the researcher during the pilot stage.

Cohen, Morrison and Manion (2000) contended that content validity, on the other hand, of instrument shows that an instrument fairly and comprehensively covers the domain or items that it purports to cover. In the view of Agyedu, Donkor & Obeng (2013), Content validity of an instrument focuses on the extent to which the content of the instrument corresponds to the concepts it is design to measure. They opine that, the usual process of establishing content validity is to examine the objectives of the instrument and compare to its content.

Cooper and Schindler (2008) suggested two ways of determining content validity. Firstly, the designer may determine it through a careful definition of the topic of concern, the items to be scaled and the scale to be used. Secondly, an expert may judge how well the instrument meets the standard.

To ensure content validity of the instrument, the initial draft of the questionnaire, the interview guide, the research topic, purpose of study, research questions and hypotheses were given to two experts one in the Department of Mathematics Education and the other in the Department of Educational Administration and Management. They were requested to study the instrument and assess the suitability of language; adequacy and relevance of the items in addressing the research questions bearing in mind the purpose of the study. In the feedback the experts recommended that some of the items needed to be removed, whereas others

were to be included in the instruments. The corrections were adhered to by the researcher before producing the final draft administered to respondents.

3.9 Procedure for Data Collection

An application for permission to conduct this study in the Awutu Senya West District of the Central Region of Ghana was sent to the Ghana Education Service Directorate in the district for permission to be granted to gain access to the schools, participants, and other document that would facilitate the study. The letter stated the objective and purpose of the study and the need for the participants to give their consent to and co-operate with the researcher (see Appendix C). This was done as part of the following ethical research practice as suggested by Creswell, (2002). He opines that respecting the site where the research takes place and gaining permission before entering a site is very paramount in research. In the same vain Kelley, Clark, Brown and Sitzia (2003), also asserted that these are the most important ethical issues to adhere to when conducting a survey. They further suggested that all information obtained should be used for the intended purpose. The approval letters from the District Educational Directorate were used to solicit permission from school heads to administer the questionnaire to the teachers.

To establish a close relationship with the teachers, the Heads convened a short meeting with the teachers to seek their maximum support. At the meeting, the researcher gave a brief overview of the study, addressed concerns teachers had about the study, and solicited teachers consent to participate in the study. The researcher assured them of confidentiality and their informed consent. Those who agreed to participate were given the questionnaire to complete for later collection on an agreed date (two weeks later). Arrangement was made with the Resource Teachers in-charge

of the schools to see to the collection of the completed questionnaire to be given to the researcher later.

3.10 Data Analysis

Data analysis is the ordering and breaking down of data into constituent parts and performing of statistical calculations with the raw data to provide answers to the research questions which guide the research. Data analysis therefore refers to the systematic organization and synthesis of research data, and the testing of research hypotheses (Burns & Grove, 2003).

The data collected was analyzed using appropriate descriptive statistics which allowed the researcher to use numerical values to represent scores in the sample. According to Borg and Gall (1983), descriptive statistics not only allows the researcher to use numbers but also provides the researcher with data that allow for inferences on the population and directions for answering the research questions. The returned questionnaires were scored and coded for analysis and answering of the research questions. An item-by-item analysis of data was conducted. The percentage of the total sample responding to each question was stated. The data was presented according to the responses and or the views of the respondents. Numerical scores were assigned to them to indicate possible relationship in responses of the respondents and then frequency lists were drawn.

The questionnaire instrument had its scales of measurement reduced/recoded from five Likert-type scale to two Likert-type scale for easy analysis of the data. For instance, the researcher combined “Not Motivated” and “Slightly Motivated” to “Not Motivated” and also “Motivated” and “Very Motivated” and “Extremely Motivated” to “Motivated” to project a unique response. This combination according to Best and Khan (1995) is possible when using Likert-type scale to report percentages. The

scores assigned to the responses were easily analysed using frequency counts. The frequency counts easily allowed the researcher to access data and interpret results for statistical analysis provided. A summary of conclusion and findings were provided, based on the findings and supported with literature. Also, tables were presented with descriptions and discussions of some major aspects that addressed the research questions raised. Inferential statistics, thus correlation and t-test, were also used to analyse data set on research question four and to test the hypothesis respectively.

The interview data was analysed using inductive thematic approach. Inductive thematic approach is the 'bottom up' approach (Frith & Gleeson, 2004), in which themes identified are strongly linked to the data. The analysis began with the transcription of the tape-recorded data into text. This text was read to identify the emerging issues which were coded using open coding. This was to ensure that the codes are directly and strongly linked to the data set. Additionally, these codes were organized to come out with lower level themes in a more coherent manner and align similar ideas into corresponding themes, axial coding was chosen. This was because using axial coding ensured the clustering of emerging ideas into a coherent unit, allowing the themes to stand out. This, it is argued, will engender a deeper understanding of the research issues (Frith & Gleeson, 2004).

3.11 Ethical Consideration

Permission was sought from Awutu Senya West district office to enable the researcher conduct this research in the district through an introductory letter collected from the University of Education. Headteachers of the various schools involve in the study were contacted for their permission. Lower primary Mathematics teachers' consent also was sought before administering the questionnaire, and conducting the interviews. The researcher clearly stated the purpose of the study and indicated that

the study was purely academic. Additionally, teachers and headteachers were assured of confidentiality which means that no names was required on the questionnaire or used during the write-up of the study.

3.12 Summary of Methodology

The study was conducted on lower primary school Mathematics teachers and headteachers of the Awutu Senya West District in the Central Region of Ghana. The research design employed by the researcher was the mixed method. This discusses the design and the justification for the design of the study. It also described the sample and sampling technique used in drawing the sample, Instruments and how they were validated, and used for data collection. Ethical issues for the research were also added.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Overview

The chapter presents the analysis and the discussions of results of the study. The chapter is comprised of three major sections which include a presentation of the demographic descriptive statistics, the descriptive and inferential data analyses for each of the four research questions, a discussion and an overall summary of the research findings.

4.1 Introduction

The purpose of the study was to explore factors determining public basic school Mathematics teachers' motivation in the Awutu Senya West District of the Central Region of Ghana and the effects of these motivational packages on their current job performance. Specifically, the study sought to: identify the main motivational packages available to Ghana Education Service Mathematics teachers in the Awutu Senya West District; assess the extent to which the current motivational packages are able to motivate Mathematics teachers in Ghana Education Service in the Awutu Senya West District in the Central Region; determine the level of job performance of Mathematics teachers in the Awutu Senya West District; determine the relationship between motivation and Mathematics teacher job performance; and make recommendations to employers (Ghana Education Service in the Central Region) on how to motivate Mathematics teachers based on the findings.

The following research questions guided the study:

1. What motivational factors are inspiring lower primary Mathematics teachers in the Awutu Senya West District to perform their professional duties?

2. How do Awutu Senya West District lower primary Mathematics teachers perceive their level of job performance?
3. To what extent do factors motivating Awutu Senya West District public basic school Mathematics teachers relate to their current job performance?
4. To what extent do male and female lower primary Mathematics teachers in public basic schools differ in relation to their current job performance?

4.2 Demographic Characteristics of the Respondents

Structured questionnaire was administered to lower public basic school Mathematics teachers in the Awutu Senya West District of the Central Region of Ghana. A total of one hundred and sixty-eight (168) lower primary Mathematics teachers were used for the study. However, a total of 150 consented teachers completed and returned their questionnaire. This gave the questionnaire a response and return rate of 89.3%. Five items on the questionnaire instruments sought participants' demographic information. The demographic characteristics of the respondents centred on their gender, age, academic qualification and number of years they have been teaching. The frequency distribution table which comprised frequencies and percentages were used to present the demographic data of the respondents. A summary of the participants' demographic characteristics is shown in Table 4.1.

Table 4.1: Summary of demographic characteristics of lower primary Mathematics teachers

Variable	Category	Frequency	Percentage
Gender	Male	54	36.0
	Female	94	64.0
	Total	**150**	**100**
Age	18-25 Years	11	7.3
	26-35 Years	43	28.7
	36-45 Years	54	36.0
	46-55 Years	35	23.3
	Above 55 Years	7	4.7
	Total	**150**	**100**
Academic Qualification	Diploma	11	7.3
	Bachelor's Degree	102	68.1
	Master's Degree	23	15.3
	Others	14	9.3
	Total	**150**	**100**
Teaching Experience	Less them 2 years	12	8.0
	2 – 5 years	25	16.7
	6 – 10 years	55	36.7
	11 – 15 years	35	23.3
	Over 15 years	23	15.3
	Total	**150**	**100**

Source: Field Data - Questionnaire (July, 2015)

4.2.1 Gender Distribution of Awutu Senya West District Lower Primary Mathematics Teachers

The data set on gender distribution of the respondents (as shown in Table 4.1) indicates that out of the total sample size of 150 public basic school Mathematics teachers sampled for the study, 94 respondent representing 64% were female whereas 54 representing 36% were male. A numerical presentation of the gender distribution is

presented in Table 4.1. The result, as shown in the table indicates that both male and female public basic school mathematics teachers were given the opportunity to part take in the study. The results shows that there exist to some extend difference in the numbers of the respondent with respect to the gender when it came to responding to the questionnaire, therefore participants (male and female) were given equitable opportunity when it can to responding to the interview items and observation. These kinds of divergent views and information from both sexes did and have contributed to enrich the results of the study.

4.2.2 Age Distribution of Awutu Senya West District Lower Primary Mathematics Teachers

The teachers were requested to indicate their age range as it applied to them (see Table 4.1). Some 7.3% (n = 11) of the respondents indicated that they were within 18 – 25 years, while 28.7% (n = 43) of the respondents indicated that they fell within 26 – 35 years, majority of the respondents (54) representing 36.0% were within 36 – 45 years whereas 35 teachers representing 23.3% were within 46 – 55 years and finally, 4.7% representing 7 respondents were in the 55 and above years age range.

4.2.3 Academic Qualification of Awutu Senya West District Lower Primary Mathematics Teachers

The teachers were subsequently asked to provide information on their education background by simply indicating their highest educational standing. The following were the responses gathered from the respondents. Majority of the respondents (102 representing 68.1%) indicated that they had a Bachelor's Degree. About 7.3% representing 11 respondents indicated that they had Diploma. Moreover, 15.3% representing 23 of the respondents indicated that they held Master's Degree.

And finally, 14 of the respondents representing 9.3% asserted that they had other certificate other than the specified ones on the questionnaire instrument. A summary of teacher respondents and their academic qualifications is as presented in Table 4.1

4.2.4 Teaching Experience of Awutu Senya West Lower Primary Mathematics Teachers

Item four on the bio data sought to find out the number of years the respondents in the Awutu Senya West District had been teaching in general. The responses are shown in Table 4.1. The lower primary basic school Mathematics teachers had varied experience in teaching the various levels. Data collected indicates that 12 of respondents representing 8.0% had had less than two years of teaching experience. Around 16.7% of the respondents representing 25 indicated that, they were within the 2 – 5 years of teaching experience. A sizeable number of the respondents (n = 55, 36.7%) also indicated that they had a teaching experience within the 6 – 10 years. 23.3% (n = 35) specified that they were within the 11 – 15 years of teaching experience. Finally, 15.3 % (n = 23) indicated that they had been teaching for over 15 years and above.

4.3 Data Presentation and Analysis of the Research Questions

Research Question 1: What motivational factors inspire lower primary Mathematics teachers in the Awutu Senya West District to perform their professional duties?

In response to the first research question, the researcher used descriptive statistics to determine the frequencies, percentages, mean and standard deviation scores for each of the six motivational packages (working condition, creativity, educational policies, technical supervision, recognition and responsibility) that were inspiring lower primary Mathematics teachers in the Awutu Senya West District in

undertaking their professional duties. Interview items also developed based on the research question were posed to public basic school Mathematics teachers in the Awutu Senya West District of the Central Region of Ghana. Thematic analysis was the data analytical tool used to analyse the responses of the respondent. Results from the questionnaire data are presented in Table 4.2.

Table 4.2: Descriptive Statistics of factors affecting Awutu Senya West District lower primary Mathematics teachers (n = 150).

		RESPONSES		Item	SS*M*
No.	**Statement**	**NM (%)**	**M (%)**	***M(SD)***	***(SSSD)***
1	The pleasantness of the working condition in my school	89 (59.3)	61 (40.7)	**1.81 (0.9)**	**9.46 (3.8)**
2	The physical surrounding where I work	102 (68.0)	48 (32.0)	**1.64 (0.9)**	
3	The physical working condition of the job I do	98 (65.3)	52 (34.7)	**1.69 (0.9)**	
4	The working condition (heating, lighting, ventilation) on this job	97 (64.7)	53 (35.3)	**1.71 (0.9)**	
5	The remuneration associated with my current position	108 (73.0)	40 (27.0)	**1.54 (0.8)**	
6	The pay associated with my current position	106 (71.1)	43 (28.9)	**1.58 (0.9)**	
7	The chance to try something different when I am to make a decision in relation to my current position	48 (32.0)	102 (68.0)	**2.36 (0.9)**	**12.43 (5.58)**
8	The chance to do new and original things on my own without external influence from my supervisors	73 (48.7)	77 (51.3)	**2.03 (1.0)**	
9	The chance to try out some of my own ideas	61 (40.7)	89 (59.3)	**2.19 (0.9)**	
10	The chance to try my own professional method of doing the job I am assigned to	58 (38.7)	92 (61.3)	**2.23 (0.9)**	
11	The way educational authorities involve teachers in planning organizational policies	122 (81.3)	28 (18.7)	**1.37 (0.7)**	**7.55 (3.15)**
12	The way the educational policies are put into practice by school authorities	110 (73.3)	40 (26.7)	**1.53 (0.8)**	
13	The way educational authorities inform employees about educational policies	115 (76.7)	35 (23.3)	**1.47 (0.8)**	
14	The policies and practices toward teaching and non-teaching staffs of the company	112 (74.7)	38 (25.3)	**1.51 (0.8)**	
15	The way my supervisor provides technical help on hard assigned problems and duties	81 (54.0)	69 (46.0)	**1.92 (1.0)**	**9.77 (3.38)**
16	The competence of my supervisor in making technical decision in relation to my work	85 (56.7)	65 (43.3)	**1.87 (0.9)**	
17	The way my supervisor delegates work to lower primary mathematics teachers	67 (44.7)	83 (55.3)	**2.11 (0.9)**	
18	The technical know-how of my supervisor in performing his supervision role in my school	83 (55.3)	67 (44.7)	**1.89 (0.9)**	
19	The way I am noticed and motivated by my supervisors when I do a good job	80 (53.3)	70 (46.7)	**1.93 (1.0)**	**10.01 (3.42)**
20	The praise I get for doing a good job	75 (50.0)	75 (50.0)	**2.00 (1.0)**	
21	The way I get full credit for the work I do	86 (57.7)	63 (42.3)	**1.85 (0.9)**	
22	The way my supervisor lets me know when I do my job well	72 (48.0)	78 (52.0)	**2.04 (1.0)**	
23	The freedom the use my own judgment	89 (60.1)	59 (39.9)	**1.80 (0.9.)**	**10.26 (3.45)**
24	The chance to be responsible for the work of others	57 (38.3)	92 (61.7)	**2.23 (0.9)**	
25	The chance to make decision on my own	82 (54.7)	68 (45.3)	**1.91 (0.9)**	
26	The chance to be responsible for planning my work	67 (44.7)	83 (55.3)	**2.11 (0.9)**	

Source: Field Data - Questionnaire (May, 2015) Key: **NM** = Not Motivating, **M** = Motivating, **(%)** = Percentage, ***M*** = Mean, ***SD*** = Std. Deviation, **SS*M*** = Sub-scale Mean, **SS*SD*** = Sub-scale Std. Deviation

The minimum and maximum mean and standard deviation scores for the various sub-scales were 7.55 (3.15) and 12.43 (5.58). The item mean scores, on the other hand, ranged from 1.3 (0.7) to 2.36 (0.9), whereas the frequency scores on the combined items on factors motivating lower primary Mathematics teachers ranged from 28 (18.7%) to 122 (81.3%). It is apparent from Table 4.2 that, the first motivating factor, Working Conditions (Factor 1), had an overall mean score of 9.46 (3.8). This sub-scale's mean score was a little less than the mean of means score (9.96). It therefore suggests that, a number of the lower primary Mathematics teachers in the Awutu Senya West District were not motivated by the working conditions available to them at their work place. This expression was evident in their responses to the various items under this factor. For example, it is clear from Table 4.2 that, 89 of the respondents representing 59.3% asserted that they were not motivated by the pleasantness of the working conditions in their schools environment whereas 61 (40.7%) of the respondents indicated that they were motivated by the pleasantness of the working conditions in their school.

The second item, which was: 'The physical surrounding where I work' also attracted majority (68%, n = 102) of the respondents indicating that they were not motivated by the item while 48 (32%) were of the view that the physical environment where they work was a motivator. Finally, the statement 'The remuneration associated with my current position' attracted 108 (73%) of the respondents stating that they were not getting motivation from the item while 40 representing 27% of the respondents indicated that they were getting enough motivation from the remuneration associated with their current position.

The second sub-scale, Creativity (Factor 2), on the other hand attracted a mean score of 12.43 (5.58). This mean score was more than the mean of means score value

(9.96) indicating that the lower primary mathematics teachers were of the view that this factor was a greater source of motivation to them at their work place. Significantly, majority of the respondents indicated as evident from the questionnaire data that they were motivated by the items under this sub-scale. For example, 102 representing 68% of the respondents stated that they were motivated by the chance to try something different when they were to make a decision in relation to their current position. Similarly, 51% representing 77 of the respondents also indicated that they were motivated by the item 8 which states, 'The chance to do new and original things on my own without external influence from my supervisors'. Majority of the respondents (n = 92, 61.3%) also indicated that the chance to try their own professional method of doing the job they are assigned to motivated them. All these items contributed to making creativity factor the most motivating package or factor among all the packages on the questionnaire instrument.

It is also evident from Table 4.2 that, 122 of the respondents representing 81.3% indicated that they were not motivated by the eleventh item, 'The way educational authorities involve teachers in planning organizational policies', whereas 28 (18.7%) of the respondents stated that they were motivated by the item. The twelfth item, which was: 'The way the educational policies are put into practice by school authorities' had majority (73.3%, n = 110) of the respondents expressing dissatisfaction with the item. Item thirteen which sought to find out whether the way and manner educational authorities inform employees about educational policies was motivating, saw majority of the respondents responding in the negative. For example, 115 representing 76.7% of the respondents indicated that they were not motivated by the item while only 35 representing 23.3% indicated that they were motivated by the item. Finally, the statement 'The policies and practices toward teaching and non-

teaching staffs of the company' attracted 112 (74.7%) of the respondents stating their dissatisfaction with the tem. All of these items together formed the Educational Policy motivating factor. This sub-scale attracted a mean score of 7.55 which was much less than the mean of means score vale 9.96. The indication is that the majority of the respondents are of the perception that Educational Policies (Factor 3) and its implementation processes in the district were not motivating enough.

A large number (n = 81 (54.0%)) of respondents disagreed that they were motivated with the fifteenth item 'The way my supervisor provides technical help on hard assigned problems'. Additionally, 56.7% (n = 85) of the participants disagreed with item 16 that they were motivated by the competence of their supervisor in making technical decision in relation to work. Furthermore, 55.3% (n = 83) out of 150 participants disagreed with item 18 which shows that most of the participants perceived that, the technical know-how of their supervisor in performing his supervision role in school is motivating. Finally, the majority of the participants (n = 83, 55.3%) indicated that they were motivated by item 17 (The way my supervisor delegates work to teachers) under the technical supervision sub-scale. The overall mean value of the technical supervision sub-scale was 9.77. This means score was slightly less than the mean of means score of 9.96. The indication is that most of the respondents were averagely motivated by the Technical Supervision (Factor 4) motivation package.

The next motivation factor whose existence was assessed in the Awutu Senya West District was the Recognition Factor (Factor 5). Results of some of the items that made up the sub-scale are presented as follows. Out of 150 participants, 53.3% (n = 80) responded that the way they are noticed and appreciated by their supervisors when they do a good job was not motivating. Nevertheless, 46.7% (n = 70) indicated

otherwise. This shows that even though a large percentage of participants perceived that they were working hard enough only a small percentage of them thought that they were been noticed and appreciated by their supervisors. For item 20, 50% (n = 75) of 150 participants were of the view that they were not getting motivation from the praise they get for doing a good job, which indicates that the participants were spilt on this item.

Finally, item 22 recoded 52% representing 78 of the respondents indicating that they were motivated by the way their supervisor lets them know when they do their job well. Whereas 72 out of the total sample of 150 indicated that they were not motivated by the item. The recognition motivation factor finally recoded a mean score of 10.01 and a standard deviation of 3.42. With a mean of means score of 9.96, one can attest that this sub-scale mean value was slightly higher. The implication is that majority of the respondents were somewhat motivated by this factor (Factor 5).

Slightly more than half (55.3%, n = 83) of the participants agreed that they derived motivation from the chance to be responsible for planning their work (Item 26) and hence lack of the existence of this item may cause frustration at their work place. This indicates that 44.7% (n = 67) of the participant perceived that they were not motivated by the chance to be responsible for their own work and hence its absence will not cause any frustration in their system.

For item 25, the number of participants who generally disagreed (n = 82 (54.7%)) was slightly more than the number of participants who generally agreed (n = 68 (45.3%)) which means that close to half of the participants perceived that the chance to make decision on their own, will overburdened them and hence they did not see how the item motivated them. Participants who had this perception are more likely to wait for decision to be made for them by their supervisor or others. For item 24,

61.7% (n = 92) agreed that the chance to be responsible for the work of others was a major source of motivation to them. This indicates that 38.3% of the remaining respondents were of the view that the chance to be responsible for the work of others was not a source of motivation to them. Finally, item 23, saw majority of the respondents (60.1%, n = 89) indicating that they were not motivated by the freedom the use their own judgment while 39.9% representing 59 of the respondents indicated that they were motivated by the freedom the use their own judgment. All of these items formed a major part of the Responsibility motivation factor (Factor 6). This factor recoded a mean score of 10.26 which was more them the mean of means score 9.96. The implication is that majority of the respondents were motivated by Factor 6.

4.3.1 Results from Interview Guide (Research Question 1)

An interview with some of the lower primary Mathematics teachers and head teachers also indicated that motivation in one form or the other existed in the various schools in the district. The qualitative results also however reveals that majority of the teachers were basically and mostly inspired by the Motivators of Hertzberg's Two-Factor theory. The interview data from the respondents are presented below.

Emphasising on the adequacy of the Motivators of Hertzberg's Two-Factor theory in the district, one head teacher said:

> *They are so many factors that are motivating my teachers in under taken their job in this school. However I can see that when I allow my lower primary teachers to take initiatives on their own in the course of work, they emmm do better and are more happy. So I do get involve to some extent in some task to be under taken but I allow them to do majority of the work and initiatives. Some of them also like to work and be around children and therefore they are always moved to do their best for the pupils in their class.* (Source: Headteacher 2)

Another head teacher was of the view that:

> *...Although we do not have any staff common room, very suitable or comfortable classroom I do my best to satisfy them. I also sometimes*

> *give them advice as a supervisor to help them teach effectively. But to talk about motivation from out we do not get. And I can see that most teachers in my school enjoy teaching as a profession and therefore they put their best in the work they do.* (Source: Headteacher 6)

Some of the teacher respondents were also of the believe that:

> *In my view I will say looking at the recognition and respect I get from my teachers and the community as a whole motivates me to work effectively in my school. Teaching enables me to interact and develop good relationship with people from many areas.* (Source: Teacher 4)

In the same vain another teachers from one of the circuit asserted that he was of the view that:

> *The responsibilities hmmmm I perform in this school give a sense of motivation to work more. You see this school is not well resourced and I am acting as the assistant head teacher of this school so I take pleasure in the responsibility I have.* (Source: Teacher 5)

It is however important to point out that some of the teachers indicated that they were motivated by the Hygiene Factors of the two factor theory during the interview section.

> *In my view I will say looking at the working condition. It is only the physical surrounding of the school is motivating. My pay and the remuneration associated with my current position are slightly motivating. The rest are not motivating at all. We are only managing…As for educational policies because we are not directly involved in the planning process I am not motivated about it at all.* (Source: Teacher 3)

> *I will say I am comfortable or ok with the other conditions of the school such as the pleasantness of the working condition in the school, the physical surrounding of the school and also the physical condition of my job. I will say the most motivating factor is the working condition on my job. For educational policies they are not motivating at all therefore I will not comment on it. This is because we are not included in the planning of the organization of the policies. This makes us not to put them into practice.* (Source: Teacher 2)

> *Actually with the working condition in my school I will say apart from the physical surrounding and my pay that motivates me nothing motivates me again.* (Source: Teacher 1)

Basing on the above research findings, therefore, one can conclude that majority of the teacher participants were motivated mostly by intrinsic factors. The findings partly agree with Mertler (2002) that, the work and living environment for many teachers is poor, which tends to lower self-esteem and is generally demotivating. Many schools lack basic amenities such as piped water and electricity, staff rooms and toilets. Notable among the lacking extrinsic motivators was the educational policy and remunerations. To them these were inadequate to meet their basic needs. Yet, Wayne (2008) asserts that a reward in form of pay has a strong impact on the employees' performance. Bratton and Gold (2003), agree with Wayne when they state that pay is one of the most powerful motivating tools. Similarly, Armstrong (2006) emphasizes the value of extrinsic motivation when he says that money provides the means to achieve a number of different ends. Above all he asserts that money in form of pay is the most obvious extrinsic reward. However, prompt salary payments revealed by 88.0% of the respondents were further commended by Kiseesi (2008) that salaries of workers should be paid promptly. She observes that salary was a strong force that kept teachers at their jobs. The researcher indicated that salary was vital in causing satisfaction among workers and hence likely to influence performance.

Research Question 2: How do Awutu Senya West District lower primary mathematics teachers perceive their level of job performance?

In relation to the second research question, the study aimed at gathering information on how Awutu Senya West District lower primary mathematics teachers perceive their level of job performance.

Table 4.3: Descriptive Statistics of Awutu Senya West District lower primary Mathematics teachers job performance (n = 150).

		RESPONSES					
No	**Statement**	**SD (%)**	**D (%)**	**U (%)**	**A (%)**	**SA (%)**	***M(SD)***
1	Teachers come very early to school	0(0)	5(3.3)	27(18.0)	88(58.7)	30(20.0)	**4.0(0.7)**
2	Always teachers come with lesson plans in class.	4(2.7)	5(3.3)	16(10.7)	83(55.3)	42(28.0)	**4.0(0.9)**
3	There is regular marking of tests and feedback to students	0(0)	1(0.7)	18(12.0)	90(60.0)	41(27.3)	**4.1(0.6)**
4	Teachers actively participate in co- curricular activities	1(0.7)	2(1.3)	15(10.0)	88(58.7)	44(29.3)	**4.2(0.7)**
5	There is regular testing and examination of students	0(0)	0(0)	21(14.2)	87(58.8)	40(27.0)	**4.1(0.6)**
6	Teachers supervise all school activities	1(0.7)	1(0.7)	15(10.0)	73(48.7)	60(40.0)	**4.3(0.7)**
7	There is regular attendance to class lessons by teachers	0(0)	0(0)	21(14.2)	87(58.8)	40(27.0)	**4.1(0.6)**
8	Regular attendance to extra lessons	0(0)	1(0.7)	18(12.0)	90(60.0)	41(27.3)	**4.1(0.6)**
9	Teachers are efficient at maintenance of students discipline	1(0.7)	1(0.7)	15(10.0)	73(48.7)	60(40)	**4.3(0.7)**
10	The turn up of teachers in staff meetings is high	0(0)	5(3.3)	27(18.0)	88(58.7)	30(20.0)	**4.0(0.7)**

Source: Field Data - Questionnaire (May, 2015) Key: **SD** = Strongly Disagree, **D** = Disagree, **U** = Undecided, **A** = Agree, **SA** = Strongly Agree, **(%)** = Percentage, ***M*** = Mean, ***SD*** = Std. Deviation,

Considering the second research question, Table 4.3 reveals information about teachers' perceptions of their current job performance. An examination of the mean and standard deviation scores for each statement measuring lower primary mathematics teachers' perceptions of their current job performance reveals that they mostly either agreed or strongly agreed to most of the items. An inspection of the result in the table shows that the mean and standard deviation scores ranged from 4.0 (0.7) to 4.3 (0.7) and the frequency and percentage marks also ranged from 0 (0%) to 90 (60%). As the table indicates, majority of the teacher participants believed and agreed that they and other mathematics teachers in their schools do go very early to school (78.7% agreeing/strongly agreeing), 27 of them representing 18% were unsure

about their earliness or lateness to school while 5 representing 3.3% indicated that they disagree to coming to school early. The item mean mark was 4.0 with a standard deviation of 0.7. The mean score indicates that majority of the respondents either agreed or strongly agreed to the first item. Similarly, the second item also attracted high mean score rating from the participants. This was very much evident in the mean weighting. For example, 55.3% and 28% of the lower primary teachers agreed and strongly agreed respectively that most teachers including themselves always go to school and class with a well prepared lesson note. However, 9 representing 6% either disagreed/strongly disagreed to the item that they come to school with a well prepared lesson plan.

Again, result on the third item reveals that most of the respondents (87.3% agreeing/strongly agreeing) are of the view that there is regular marking of assessment and feedback are regularly given to pupils in their schools. The analysis however shows that only one respondent indicated his/her disagreement to the third item. In addition, more than one-half of the respondents claimed that teachers actively participated in extra or co-curricular activities in their schools (n = 132, 88% agreeing/strongly agreeing). It is worth mentioning that one participant representing 0.7% strongly disagreed that Mathematics teachers actively participate in co-curricular activities and two teachers disagreed to the item.

The teachers were unequivocal on the fifth item 'There is regular testing and examination of students'. For instance, 87 of the respondents representing 58.8% agreed and 40 signifying 27% strongly agreed to the statement. Furthermore, a little above three-fourth of the respondents indicated that Mathematics teachers in their schools supervise all school activities (88.7% agreeing/strongly agreeing). Likewise, the most of the teachers revealed that there is regular attendance to class lessons by

lower primary school mathematics teachers (n = 127, 85.8% agreeing/strongly agreeing). The respondents were also asked to indicate their agreement or disagreement with the eighth item, 'Regular attendance to extra lessons by mathematics teachers'. The results as presented in Table 4.3 further indicates that most of the teachers sampled for the study (n = 90, 60.0% agreed and n = 41, 27.3% strongly agreeing) indicated that they regularly attend extra lessons/classes. Again, most of the lower primary mathematics teachers who took part in the survey revealed that most mathematics teachers in the schools are efficient at maintaining discipline among pupils (n = 73, 48.7% agreed and n = 60, 40% strongly agreeing). Finally, most of the respondents were of the view and believe that most of the lower primary mathematics teachers in their schools did highly turn up for staff meetings. The last item attracted a mean score of 4.0 and a standard deviation of 0.7.

4.3.2 Results from Interview Guide (Research Question 2)

An interview with some of the lower primary school Mathematics teachers also indicated that teachers' performance was good. One lower school primary Mathematics teacher commented:

> *I will say yes because mostly we come to school early with our notebooks which will be marked by the headmistress on Mondays, then teaching takes place with exercises, home works are also given to pupils. I then mark them to see if they have really understood what I taught them.*

Another teacher indicated that:

> *I will say no and yes. For the no, I will say most of the responsibilities in the school are controlled by the headmistress. We are not allowed our full freedom and also the chance to be responsible for planning our work. But I will say we are doing our best as we mostly come to school early, prepare and submit our lesson notes and also teach effectively.*

Finally, a female Mathematics teacher asserted that:

> *The answer is yes because we deliver as it is expected of us. That is, we do our work by preparing our lesson notes, teach and also mark.*

One headteacher commented;

> *Yes, I will say they are doing their best because their able to prepare and present their lesson notes on time, come to school on time early enough, teach and mark exercises which are mostly their duty.*

4.3.3 Results from Documentary Analysis

The issue of punctuality of teachers was further investigated by looking at the various school reporting or attendance book for lower primary mathematics teachers for the selected district - Awutu Senya West District. It was found that the majority of the teachers reported to schools before 8am. The attendance book therefore, agreed with the questionnaire responses that majority of the mathematics teachers come very early at school. Regular marking of administered assessment for pupils was also cross-checked in teachers' records of marks. Although, most teachers claimed to have left their records of marks in their homes on the day when the researcher visited the schools, there was still evidence of marked pupil scripts possessed by pupils themselves. The researcher also took the opportunity to gather information about lesson notes/plans by mathematics teachers who were found in class teaching. The results revealed that about one-half of the teachers had prepared their lesson notes for the day's lesson. This was contrary to 78.7% of the respondents who indicated in the questionnaire that teachers came with lesson plans in class.

Preliminary conclusion based on the above research questions suggests that the performances of lower primary school Mathematics teachers were average despite the fact that motivation in the district was inadequate. Accordingly, many respondents advocated for increase in salary and other non-monetary benefits of teachers to match

the increasing cost of living in Awutu Senya West District in particular and Central Region in general. Most of them too suggested that funds should be provided to various school authorities for the purchase of books and teaching/learning materials to help them teach effectively. Similarly some of the teacher respondents were of the view that furniture, staff common room, and text books should be provided by the government and Parent Teacher Association as this will help motivate them and help in the smooth running of the school.

Findings based on this research question are similar to Acheampong and Bennell (2003) study in Ghana which concluded that teacher morale was reasonably high. In this study, only a few of the teacher respondents indicated that they did not perform their job as expected of them. It is thus fair to conclude that the majority of the teachers in primary schools in Awutu Senya West District were not adequately motivated. Despite this, however, the majority of the teachers performed their jobs/duties with high morale as evidenced from reporting early at school, regular testing and examination of pupils, high turn up of mathematics teachers in staff meetings and school occasions, efficiency at maintenance of students discipline and supervision of school activities among others. Similarly, in a survey of primary schools in Sierra Leone, primary school head teachers indicated that, if they could, they would replace less than 20% of the number of teachers because they are poorly motivated however they were (Bennell, Harding and Rogers-Wright, 2004). Furthermore, a study by Bennell, Bulwani and Musikanga, (2003) reveal that teacher morale also varies noticeable across schools in the same locations. For example, in a small survey of secondary schools in Lusaka, Zambia, the breakdown of headteacher ratings of teacher morale was: high 44%, moderate/average 22% and poor 33% (Bennell, Bulwani & Musikanga, 2003).

Research Question 3: To what extent do factors motivating Awutu Senya West District public basic school Mathematics teachers relate to their current job performance?

To answer the third research question, a bivariate correlational analysis using Pearson product-moment correlation was conducted on the data set (motivational factors and job performance). Preliminary analysis was performed to ensure no violation of the assumptions underlining correlational analysis. The first assumption considered was scale of measurement. According to Field (2009), Pearson's correlation requires only that data are measured on an interval or ratio scale for it to be an accurate measure of the linear relationship between two variables. This assumption was met as all factors were continuous variables and measured on scale (interval or ratio scale). Another assumption that was considered was normality of the distributed; this assumption was met as the distribution of the dependent score was approximately normal with a mean of 3.71 and a standard deviation of 0.65. Skewness and Kurtosis values of -0.58 and 0.66 respectively show that the distribution of the scores are approximately symmetrical and matches the Gaussian distribution. Assumption of linearity between motivational package and job performance factors was assessed using matrix scatter plot. This showed some linear relationship between the factors. These results showed that Pearson product-moment correlation assumptions were tenable. The results of the descriptive statistics on the variables used in the correlation analysis are presented in the Table 4.4.

Table 4.4: Mean and standard deviation of factors motivating lower primary school Mathematics teachers and their job performance

Variables	Mean	Std. Deviation
Working Condition	10.0	3.3
Creativity	11.0	4.0
Educational Policies	10.0	3.4
Technical Supervision	10.0	4.0
Recognition	12.4	6.0
Responsibility	8.0	3.2
Job Performance	41.2	5.1

Source: Field Data - Questionnaire (May, 2015)

Table 4.4 shows the descriptive statistics (mean and standard deviation) of the variables used in the bi-variate analysis. The data presented show that Working Condition Factor had a mean and standard deviation scores of 10 and 3.3 respectively, Creativity Factor attracted a mean and standard deviation values of 11.0 and 4.0 respectively, Educational Policies Factor, Technical Supervision Factor, and Recognition Factor score mean and standard deviation values of 10.0 (3.4), 10.0 (4.0) and 12.4 (6.0) respectively and finally, Responsibility Factor and Job Performance Factor obtained a mean and standard deviation scores of 8.0 (3.2) and 41.2 (5.1) respectively. The results of the correlation analysis are presented in the correlation matrix in Table 4.5.

Table 4.5: Inter-correlation matrix for motivation factors and Mathematics teachers' job performance

Sub-scale		Job Performance
Working Condition	*r*	0.14
	Sig. (2-tailed)	0.600
	n	150
Creativity	*r*	0.23**
	Sig. (2-tailed)	0.000
	n	150
Educational Policies	*r*	0.10
	Sig. (2-tailed)	0.911
	n	150
Technical Supervision	*r*	0.23**
	Sig. (2-tailed)	0.000
	n	150
Recognition	*r*	0.18*
	Sig. (2-tailed)	0.020
	n	150
Responsibility	*r*	0.16*
	Sig. (2-tailed)	0.030
	n	150

Source: Field Data - Questionnaire (May, 2015)

***p* < 0.05 level (2-tailed). ***p* < 0.01 level (2-tailed).**

The bi-variate analysis results, as shown in Table 4.5 indicate that there was a positive correlation between factors motivating lower primary mathematics teachers (Working Condition, Creativity, Educational Policies, Technical Supervision, Recognition, Recognition and Responsibility) and their current job performance. It is indicated in Table 4.5 that there was a non-significant weak positive correlation between Working Condition (motivation factor) and lower primary Mathematics teachers' job performance (r = 0.14, n = 150, p > 0.05). The coefficient of determination (R^2) = 0.02. It therefore suggests that working condition motivating factor helps to explain about 2% of the total variance in Awutu Senya West District basic school Mathematics teachers' job performance. The coefficient of

determination, (R^2), according to Field (2009) is a measure of the amount of variability in one variable that is shared by the other. Field further suggests that the R^2 value can be converted or expressed in percentage form by multiplying the coefficient of determination by 100. Field however cautioned that direct conclusions about causality from a correlation based on the coefficient of determination, (R^2) value cannot be made.

Furthermore, there was a significant positive correlation between Creativity Motivational Factor and Awutu Senya West District Mathematics teachers' job performance (r =0 .23, n = 150, $p < 0.01$). The magnitude of the relationship between the means of these two variables was medium (R^2 = 0.1) effect. Thus, when the coefficient of determinate is expressed as percentage, it shows that 10% of the variance in teachers' job performance is explained by the Creativity Motivational Factor influencing motivation of Awutu Senya West District lower primary teachers. Additionally, results in Table 4.5 show that, there was a positive non-significant relationship between Educational Policies (motivational factor) and teachers' performance (r = 0.10, n = 148, p = 0.21). The R^2 (coefficient determinant) = 0.01. When the R^2 is expressed as a percentage, it could be observed that almost 1% of the total variance in teacher job performance is explained by the available Educational Policies factors in the Awutu Senya West District. Moreover, Awutu Senya West District lower primary mathematics teachers' job performance was significantly correlating (r =0 .23, n = 150, $p < 0.01$) with Technical Supervision motivation factor. The coefficient of determinant which explain the magnitude of the relationship between the two variables was not that large (R^2 = 0.1). Thus 10% of the variance in teachers' job performance is explained by the Technical Supervision motivation factor available in Awutu Senya West District basic schools.

Results from Table 4.5 point out that, there was a positive significant correlation ($r = 0.18$, $n = 150$, $p < 0.05$) between Recognition as a motivational factor and teachers' job performance. The scale of the relationship between these two variables was not that very large as it recorded a coefficient determinant of (R^2) 0.03. When this R^2 is expressed in percentage wise, it shows that about 3% of the total variance in teachers' job performance is described by recognition motivation factor. Finally, there was a positive correlation between Responsibility motivational factor and Awutu Senya West District lower primary Mathematics teachers' job performance ($r = 0.16$, $n = 150$, $p < 0.05$). The magnitude of the relationship between the means of these two variables was small ($R^2 = 0.03$) effect. Thus, when the coefficient of determinate is expressed as percentage, it shows that 3% of the variance in teachers' job performance is explained by the responsibility factors influencing motivation in the Awutu Senya West District.

Founded on the afore mentioned research findings, therefore, it is fair to conclude that majority of the respondents had intrinsic motivation evidenced by increased recognition, creativity, commanding control over other people in the school community (responsibility), the challenging and competitive nature of the teaching profession and having realized their goal in life which was training the nation. Consequently, a significant positive relationship between intrinsic motivation and performance of teachers was found to exist in primary schools in Awutu Senya West District. Since Motivators or intrinsic motivation is said to exist when behaviour is performed for its own sake rather than to obtain material or social reinforcers (Sansone & Harackiewicz, 2000), it is the best form of motivation that positively affects performance. Therefore, the study findings indicated that there is a positive

relationship between intrinsic motivation and performance of teachers in primary schools in Awutu Senya West District.

On the other hand, the study found that extrinsic motivators had to in some extent increased teachers' morale to perform. Despite this, a positive relationship existed between extrinsic motivation and performance of teachers, implying that extrinsic motivation affects the performance of teachers in Awutu Senya West District. The findings partly agree with Mertler (2002) that, the work and living environment for many teachers is poor, which tends to lower self-esteem and is generally demotivating. Armstrong (2006) also emphasized the value of extrinsic motivation when he says that money provides the means to achieve a number of different ends. Yet, Wayne (1998) asserts that a reward in form of pay has a strong impact on the employees' performance. Bratton and Gold (2003) agree with Wayne when they state that pay is one of the most powerful motivating tools

Research Question 4: To what extent do male and female lower primary Mathematics teachers in public basic schools differ in relation to their current job performance?

In order to answer research question four, descriptive statistics and an independent samples t-test were conducted to determine the differences between male and female Mathematics teachers job performance in the Awutu Senya West District. The test was meant to identify whether the mean scores of teachers in the Awutu Senya West District will differ with respect to their gender (male and female). Before the analysis was carried out, independent-sampled t-test assumptions were assessed.

The first assumption that was considered was the independence of the scores obtained. According to Pallant (2005), observations should be statistically independent. In elaborating on this assumption, Pallant indicated that independence of

scores means that each person or case should be counted only once. Pallant further explained that a person or case cannot appear in more than one category or group, and the data from one subject cannot influence the data from another. This assumption was met because the scores/data for this study came from different participants that are male and female.

The next assumption that was considered was normality of the distributed; this assumption was met as the distribution scores were approximately non-normal. According to Gravetter and Wallnau (2000), normal is used to describe a symmetrical, bell-shape curve that has the greatest frequency of scores in the middle, with smaller frequencies toward the extremes. This normality can be expressed and assessed to some extent by obtaining the values of skewness and kurtosis of the distribution. From the data set on lower primary basic school Mathematics teachers, the distribution of the 10 Total-Performance score was approximately normal with a mean score of 19.930 and a standard deviation of 6.669. The value of skewness and kurtosis of the distribution are also 0.966 and 1.016 respectively. The results are presented in Table 4.6.

Table 4.6: Approximate Normal Distribution of Total-Performance scores

Sample size	Mean	SD	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
150	19.930	6.669	0.966	0.154	1.016	0.307

Source of data: Field Work/Questionnaire (May, 2015)

The forgoing results show that the distribution of the scores is approximately symmetrical and matches the Gaussian distribution. These values of the distribution have contributed to the shape of the histogram, as shown in Figure 4.1.

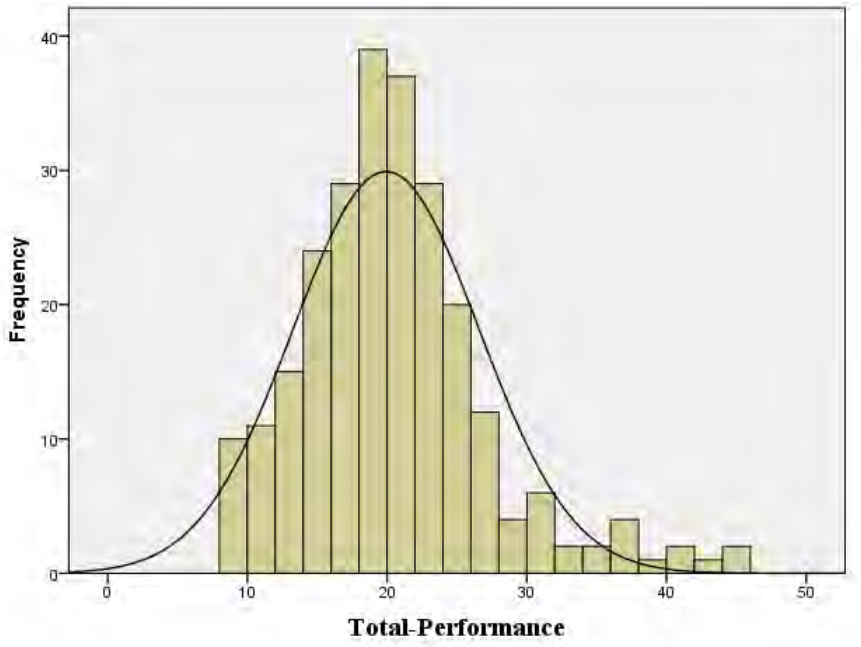

Figure 4.1 Histogram of Job Performance among Basic School Mathematics Teachers.

The histogram in Figure 4.1 indicates that the data set is almost normally distributed. Assumption of homogeneity of variance across the dependent variables (Job Performance) was also assessed. The analysis indicated that the assumption was not violated because Levene's test for equality of Variances was non-significant (p = 0.183). It can therefore be assumed that the variances are roughly equal and the assumption is tenable. The result as presented on the assumptions underlining Independent-samples t-test indicates that the analysis was tenable. Table 4.6 presents the results of the t-test analysis.

Table 4.7: Independent-sampled t-test of Basic School Mathematics Teachers' perception of their job performance.

	Gender	N	Mean	Std. Deviation	df	T	sig.
Job Performance	Male	95	41.64	4.7	146	1.44	0.15
	Female	53	40.40	5.6			

Source: Field Data - Questionnaire (May, 2015)

The results as presented in Table 4.7 indicate that male participants in the Awutu Senya West District public basic schools rated themselves slightly above (M = 11.13, SD = 1.20) their female lower primary Mathematics female teachers in the study. From the table, the result of the analysis indicates that there was no statistical significant different between the two groups (t = 1.44, df = 146, p > 0.05). Mean differences, and Cohen's d (effect sizes) were computed between male lower primary school Mathematics teachers and female lower primary Mathematics teachers' job performance to assess the magnitude of the effect size. Cohen's d was computed to compare the magnitude of differences between lower primary Mathematics teachers using $d = \frac{2t}{\sqrt{df}}$ (Cohen, 1969; Thalheimer & Cook, 2002). Cohen's guidelines for effect size are as follows: Cohen's d = 0.20 or less is considered small, Cohen's d = 0.50 is moderate, and Cohen's d = 0.80 is considered large (Cohen, 1969). Even though the magnitude of this difference was very small based on Cohen's effect size (0.24 or 24%), results showed a non-significant discrepancy between male and female mathematics teachers job performance.

Conclusion based on the fourth research indicates that Mathematics teachers' job performance did not differ significantly between male and female teachers. However, the findings show that male Mathematics teachers (M = 41.64, SD = 4.7) had slightly high morale to perform their professional duties than female lower primary Mathematics teachers (M = 40.40, SD = 5.6). These findings seem to be consistent with the related literature about the effect of certain background characteristics on teacher perceptions (Başkan, 2001; Wayne & Youngs, 2003; Bennell et al, 2002). Bennell et al, (2002) in their study found that gender was not a differentiator when it came to job performance in Sub-Saharan Africa and Asia.

4.4 Summary of Results and Discussions

This chapter presented and discussed the results of the data collected from lower primary school Mathematics teachers and headteachers . Both quantitative and qualitative data were used. Descriptive and inferential statistics were used to analyse the quantitative data. The results of the quantitative data were presented in tables. The qualitative data on the other hand was analysed using thematic analysis. The results showed that teachers were motivated intrinsically.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Overview

This chapter presents summary of the research findings, conclusions and recommendations of the study. The recommendations are suggested as a way of adding to the sock of interventions stakeholders in the educational industry might have and also serve as a motivation for teachers in order to increase their performance at work. Summary and conclusions on the other hand, involve significant issues established in the study.

5.1 Introduction

The purpose of the study was to explore factors determining lower primary school Mathematics teachers' motivation in Awutu Senya West District in the Central Region of Ghana and the effects of these motivational factors on their current job performance. Specifically, the study sought to: identify the main motivational packages available to basic school Mathematics teachers in the Awutu Senya West District; assess the extent to which the motivational packages motivate basic school Mathematics teachers in the Awutu Senya West District in the Central Region; determine the level of job performance of basic school Mathematics teachers in the Awutu Senya West District; determine the relationship between motivation and Mathematics teachers' job performance and make recommendations to employers for policy-practice. The following overarching questions guided this study:

1. What motivational factors are inspiring lower primary Mathematics teachers in the Awutu Senya West District to perform their professional duties?

2. How do Awutu Senya West District lower primary Mathematics teachers perceive their level of job performance?
3. To what extent do factors motivating Awutu Senya West District public basic school Mathematics teachers relate to their current job performance?
4. To what extent do male and female lower primary Mathematics teachers in public basic schools differ in relation to their current job performance?

The study adapted Herzberg's Two-Factor Theory of Motivation as the theoretical framework or foundation. A mixed method, non-experimental design using survey research was employed by the researcher to address the purpose and research questions of the study. The target population for this study was all lower primary Mathematics teaching in the Central Region of Ghana. The accessible population on the other hand consisted of all lower primary Mathematics teachers in the Awutu Senya West District. One hundred and sixty-eight (168) lower primary school Mathematics teachers and seven head teachers were selected from the sampled district for the study. The study further adapted the Minnesota Satisfaction Questionnaire (MSQ) to collect quantitative data on factors contributing to respondents' motivational state, self-developed interview guide and document analysis were also used to collect qualitative data. Descriptive statistics such as frequencies, percentages, mean and standard deviation scores were employed to analyse aspects of the quantitative data gathered from the respondents. Pearson's Moment-Product Correlation and Independent-sampled t-test were also used to inferentially analysis the rest of the quantitative data. The qualitative data on the other hand was analysed using thematic analysis.

5.2: Summary of Results

The result of the study is discussed under the following main headings:

1. Motivational factors are inspiring lower primary Mathematics teachers in the Awutu Senya West District to perform their professional duties.

2. Awutu Senya West District lower primary Mathematics teachers' perception on their job performance.

3. The extent to which factors motivating Awutu Senya West District public basic school Mathematics teachers relate to their current job performance.

4. The degree to which male and female lower primary Mathematics teachers in public basic schools differ in relation to their current job performance.

5.2.1 Motivational factors are inspiring lower primary Mathematics teachers in the Awutu Senya West District to perform their professional duties

Findings on research question one revealed that lower primary Mathematics teachers in Awutu Senya West District benefited from both Motivators (intrinsic factors) and Hygiene Factors (extrinsic factors) in their schools. However, majority of the teachers revealed that they were mostly motivated by Motivators (intrinsic factors) of the Herzberg's Two-Factor theory. For example, majority of the respondents revealed that they were mostly inspired by Creativity Factor of the Two-Factor theory. Thus, the respondents were motivated by item such as 'the chance to try something different when I am to make a decision in relation to my current position', 'the chance to do new and original things on my own without external influence from my supervisors', and 'the chance to try my own professional method of doing the job I am assigned to'. The next factor which the respondents indicated was also motivating them was the Responsibility Factor of the Herzberg's Two-Factor theory.

This factor measured behaviours such, 'the freedom to use my own judgment' 'the chance to be responsible for the work of others' and 'the chance to make decision on my own' among others were accounting for inspiring the lower primary Mathematics teachers to work. Other forms of intrinsic motivation were a great deal of job satisfaction and career development in the teaching profession. This implies that such teachers derived their expectations from teaching and therefore had high morale to perform better.

Study findings revealed that the extrinsic motivators available to teachers in various lower primary schools mathematics teachers in Awutu Senya West District were pleasant working conditions, the way my supervisor delegates work to lower primary school Mathematics teachers, the way my supervisor provides technical help on hard assigned problems and duties, the physical surrounding where they work among other. On the other hand, respondents revealed the inadequacy of the following Hygiene Factors or extrinsic motivators: the involvement of majority of the teachers enacting educational policies, technical know-how of supervisors, monitory and non-monitory benefits, as well as accommodation. This implies that not all extrinsic motivators were available to teachers in the primary schools studied in Awutu Senya West District. Salary was notably the most pressing motivator that was reported to be lacking. Consequently, the majority of the respondents (74.3%) indicated that extrinsic motivators had a small effect on teachers' morale to perform; implying that inadequacy of extrinsic motivators did not significantly affect the morale of teachers to perform.

5.2.2 Awutu Senya West District lower primary Mathematics teachers' perception on their job performance

Research findings gathered from both quantitative and qualitative sources revealed that majority of the teachers perceived themselves as good performers of their professional jobs and have high morale for professional work. Majority of the lower primary mathematics teachers performed their activities with high morale as evidenced from reporting early at school, regular testing and examination of pupils, high turn up of teachers in staff meetings and school occasions, efficiency at maintenance of students discipline and supervision of school activities, regular attendance to extra lessons among others.

5.2.3 The extent to which factors motivating Awutu Senya West District public basic school Mathematics teachers relate to their current job performance

Research findings indicated that majority of the lower primary school Mathematics teachers were intrinsically motivated by the recognition and respect accorded to them by supervisors, other colleagues teachers and the community, the responsibilities they performed in the school which gave them a sense of control over others, interaction and development of relationship with people from many areas, and the challenging nature of the teaching profession.

Other forms of intrinsic motivation were a great deal of job satisfaction and career development in the teaching profession. This implies that such teachers derived their expectations from teaching and therefore had high morale to perform better. Surprisingly, however, majority of teachers indicated that intrinsic motivation had to some extent increased their morale to perform. It therefore implies that a significant positive relationship existed between intrinsic motivational factors and performance

of teachers implying that increase in intrinsic motivation increased the performance of teachers. Study findings further revealed that the extrinsic motivators available to teachers in various primary schools in the district were acceptable supervisors and supervision styles, payments salary was assured, leave of absence in case a teacher had a reason to justify it and, extra teaching allowances to teachers.

On the other hand, respondents revealed absences or inadequacy of the following extrinsic motivators: adequate salary, good working condition, medical care, weekly duty allowances to teachers as well as accommodation. This implies that not all extrinsic motivators were available to teachers in the primary schools studied in the Awutu Senya West District. Salary was notably the most pressing motivator that was reported to be lacking. Consequently, the majority of the respondents indicated that extrinsic motivators had a small effect on teacher‘s morale to perform; implying that inadequacy of extrinsic motivators did not significantly affect the morale of teachers to perform

5.2.4 The degree to which male and female lower primary Mathematics teachers in public basic schools differ in relation to their current job performance

Findings based on the background characteristic (gender) of the lower primary school Mathematics teachers were examined to establish if there exist any significance differences between their job performances. The research findings based on the above stated objective indicated that mathematics teachers' job performance did not differ significantly between male and female teachers. However, the findings show that male mathematics teachers (M = 41.64, SD = 4.7) had slightly high morale to perform their professional duties than female lower primary mathematics teachers (M = 40.40, SD = 5.6). The job performances of the teachers included reporting early

at school, regular testing and examination of pupils, high turn up of mathematics teachers in staff meetings and school occasions, efficiency at maintenance of students discipline and supervision of school activities among others. These findings seem to be consistent with the related literature about the effect of certain background characteristics on teachers' job performance and morale to performance work (Başkan, 2001; Wayne & Youngs, 2003).

5.3 Conclusion

The purpose of the study was to explore and investigate factors contributing to lower primary school Mathematics teachers' motivation and how it is affecting their job performance. Based on the findings, it is fair to conclude that the performance of teachers was good despite the fact that their motivation was inadequate. Consequently, many respondents advocated for increase in salary and other non-monetary benefits of teachers to match the increasing cost of living in district. Despite this, however, the majority of the teachers performed their activities with high morale as evidenced from reporting early at school, regular testing and examination of pupils, high turn up of teachers in staff meetings and school occasions, efficiency at maintenance of students discipline and supervision of school activities among others. There was also no significant deference in the job performance of both male and female Mathematics teacher. Again based on the research findings, the study concluded that the majority of the respondents were basically inspired by intrinsic motivation as evidenced by increased recognition, responsibility, and oversite responsibility over other people in the school community having realised their goal in life which was training the nation. A significant and non-significant positive relationship between factors motivating lower primary school Mathematics teachers and their job performance was established at 0.05 level of significance. This implies

that increase in factors motivating of teachers is likely to lead to increase their performance at work.

5.4 Recommendations

The findings of this study indicated that lower primary school Mathematics teachers in Awutu Senya West District were motivated by both intrinsic (Motivators) and extrinsic (Hygiene Factors) motivational factors. However, the factor which is edging the teachers on the most was the Motivators (intrinsic factors). It was evident from the research that most of the teachers undertake their job as expected of them. There was also a relationship between factors motivating these teachers and their job performance. Based on these findings and conclusion of the study the researcher recommends that:

1. Ghana Education Service should work out incentive packages to increase teachers' motivation to teach mathematics in lower primary schools in the Central Region of Ghana. Special attention should be paid to increasing teacher's salaries and other benefits. Because majority of them (teachers) complained about the inadequacy of their salary to meet their needs, and lack of accommodation in the district. Increasing teacher's salaries and providing accommodation facilities will increase their morale to teach. This recommendation is based on fact that the teachers must be interested in what they teach and in the children when they are teaching. If they are not interested in the work themselves, they can never motivate the class to learn.
2. Supervision in and by Ghana Education Service should be strengthened. Thus circuit supervisors and head teachers should be train to be more regular in the adoption of more pragmatic (clinical and other modern supervision) supervision style in order to stop teachers from participating in and exploring

avenue for secondary employment. The district inspectorate and other supervisory bodies should also be strengthened and adequately funded in order to carry out routine school supervision. Regular visits to the schools would motivate the teachers to be more regular and early in school and avoid divided attention of searching for secondary employment.

3. Educational policies of the Ministry of Education should be organizational sensitive, in line with current organisational and international practices, be all embracing and all involving at the enacting phase, and applied to all in a fair and firm manner. The teachers participants revealed that, the way educational authorities involve teachers in planning, disseminating policy information and implementing organisational policies were not motivating.
4. Accommodation needs to be provided to the teachers to enable them live near schools since many of them reported to be living far away from their schools. Communities and other stakeholders should be assisted by the government to put up decent teachers' houses so that teachers live within the schools and thus reduce lateness and absenteeism. This will increase their motivation and eventually performance. The local community's contribution in this case may be in form of provision of free labor or financial contributions towards the construction process.
5. The study district can institute awards for better lower primary school mathematics teachers' performance. Areas such as school and pupil discipline, teacher performance, pupil attendance and achievement and community and parent participation in school activities should be rewarded to serve as a motivation.

5.5 Suggestions for Further Research

The results of the study have revealed inadequately motivation of lower primary mathematics teachers and consequently their average job performance. The educational implications of the findings of this study calls for further investigation into the area of lower primary Mathematics teachers' motivation and job performance. The following are recommended for further research:

1. It is suggested that a similar study be conducted in other districts in the Central Region and other region in Ghana. This would provide a basis for more generalisation of the conclusions to be arrived at about lower primary school Mathematics teachers.
2. It is further proposed that studies investigating strategies that can be adopted to improve teacher motivation and performance in lower primary schools be carried out across the nation.
3. It is proposed finally that studies be carried out to investigate factors that are hindering the effective implementation of the teacher motivation.

REFERENCES

Abdo, H. A. (2001). Teacher incentives in the Middle East and North Africa region: the shortcomings. *Mediterranean Journal of Educational Studies, 6 (1)*, 107-122.

Abraham, W. T., & Russell, D. W. (2008). Statistical power analysis in psychological research. *Social and Personality Psychology Compass, 2 (1),* 283-301.

Abwalla, J. (2014). *The Principals' leadership styles and teachers performance in secondary schools of Gambella Regional States* (Unpublished M.A. Thesis). Jimma University, Ethiopia.

Acheampong, K. & Bennell P. S. (2003*). Research project application to DFID: teacher motivation and incentives in low-income developing countries.* Knowledge and Skills for Development. Brighton.

Adeyemi, T. (2010). Principals' leadership styles and teachers' job performance in senior secondary schools in Ondo State, Nigeria. *Journal of Education Administration and Policy Studies, 2 (6),* 83-91.

Afful-Broni, A. (2004). *Theory and practice of educational leadership in Ghana.* Accra: Yamens Press Ltd.

Afful-Broni, A. (2012). Relationship between motivation and job performance at the University of Mines and Technology, Tarkwa, Ghana: Leadership Lessons. *Creative Education. 3 (3),* 309-314.

Agezo, K. C. (2010). Why teachers leave teaching: The case of pre-tertiary institutions in Ghana. *International Journal of Education Reform, 19 (1),* 51-52.

Agyedu, G. O., Donkor, F., & Obeng, S. (2013). *Teach yourself research methods.* Amakom-Kumasi: Payless Publication Limited.

Akinwumi, F. S. (2000). *Impact of motivation and supervision on teacher productivity in secondary schools in Oyo State, Nigeria* (An Unpublished Ph.D. thesis submitted to The Faculty of Education). University of Ibadan, Nigeria.

Akyeampong, K., & Asante, K. (2005). Teacher motivation and incentives: A Profile of Ghana. University of Sussex, UK and University of Education Winneba, Ghana.

Alam, M., & Farid, S. (2011). Factors affecting teachers' motivation. *International Journal of Business and Social Science, 2 (1),* 298-304.

Alderfer, C. P. (1969). An empirical test of a new theory of human needs. *Organizational Behavior and Human Performance, 4,* 143-175.

Alhassan, S. (2006). *Modern approaches to research in educational administration for research students.* Amakom, Kumasi: Payless Publication Ltd.

Analoui, F. (2000). What motivates senior managers? The case of Romania. *Journal of Managerial Psychology, 15 (4),* 324-340.

Andrew, D. P. S. & Kent, R. (2007). The impact of perceived leadership behaviors on satisfaction, commitment, and motivation: An expansion of the multidimensional model of leadership. *International Journal of Coaching Science, 1,* 35-56.

Annum, G. (2016). *Quota sampling techniques*. Accessed on 20th July, 2016. From http://campus.educadium.com/newmediart/file.php/1/giilmadstore/UgradResearch/ResMethgen/files/notes/qota.pdf

Arif, G. M. (2003). Urbanization in Pakistan: Trends, Growth and Evaluation of the 1998 Census. In A. R. Kemal, M. Irfan, and N.Mahmood, (Eds.) *UNFPA Population of Pakistan: An analysis of 1998 population and housing census.* Pakistan: Institute of Development Economics.

Armstrong, M. (1996). *A handbook of human resource management practice*. London: Kogan.

Armstrong, M. (2006). *Human resource management practice*, London: Kogan

Armstrong, M. (2007). *Handbook of reward management practice. Improving performance through reward*. (4th ed.). London: Kogan

Atkinson, E. (2000). Behind the inquiring mind: Exploring the transition from external to internal inquiry. *Reflective Practice 1 (2)*, 149–64.

Awanta, E. K., & Asiedu-Addo, S. K. (2008). *Essential statistical research for universities, colleges and research institutions*. Accra: Salt and Light Publishers.

Babbie, E. (2007). *Survey research methods*. Belmont, California: Wadsworth Publishing Company.

Barmby, P. (2006). Teacher recruitment and retention. *Educational Research, 48 (3)*, 248-265.

Barnett, K., & McCormick, J. (2003).Vision, relationships and teacher motivation: a case study. *Journal of Educational Administration, 41 (1)*, 55-73.

Başkan, G. A. (2001). Teaching profession and re-structuring in teacher education. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 16,* 16–25.

Beaufort, B., & Longest, J. R. (1996). *Health professionals in management*. New Jersey: Prentice Hall.

Bennell, P. S. Bulwani, G., & Musikanga, M. (2003). *Secondary education in Zambia*: Centre for Internal Education. Sussex University, Brighton.

Bennell, P. S., Harding, J., & Rogers-Wright, S. (2004). *PSRP education sector review in Sierra Leone.* Ministry of Education Science and Technology, Freetown.

Bernaus, M., Wilson, A. & Gardner, R. C. (2009).Teachers' motivation, classroom strategy use, students' motivation and second language achievement. *Porta Linguarum, 12*, 25-36.

Best, J. W. & Kahn, J. V. (1993). *Research in education.* Boston: Allyn and Bacon.

Borg, W. R. & Gall, M. D. (1983). *Educational research: An introduction* (4th ed.). New York: Longman.

Bratton, J., & Gold, J. (2003). *Human resource management: Theory and practice*, (3rd ed.). Hampshire: Palgave Macmillan.

Broussard, S. C. & Garrison, M. E. B. (2004). The relationship between classroom motivation and academic achievement in elementary school-aged children. *Family and Consumer Sciences Research Journal, 33 (2)*, 106–120.

Bryman, A. & Cramer, D. (1990). *Quantitative data analysis for social scientists*. London: Routledge.

Bryman, A. & Cramer, D. (2001). *Quantitative Data Analysis for Social Scientists*. London: Routledge.

Burns, N & Grove, S. K. (2003).*Understanding nursing research.* (3rd ed.). Philadelphia: W. B Saunders Company.

Campbell, D. J. & Pritchard, R. (1976). Motivation theory in industrial and organizational psychology. In M.D. Dunnette (Ed.), *Handbook of industrial and organizational psychology.* (pp. 63-130). Chicago: Rand McNally.

Campbell, G. & Tomlinson, A. (1999). Transducing the Dpp morphogen gradient in the wing of Drosophila: Regulation of Dpp targets by brinker. *Cell,* 96 (4), 553-562.

Carraher, R., Gibson, A., & Buckley R. (2006). Compensation in the Baltic and the USA, *Baltic Journal of Management, 1,* 7-23.

Carron, G. (1996). The quality of primary schools in different development context. UNESCO, Paris, International institute of educational panning. Retrieved on 6/2/2016 from http://unesdoc.unesco.org/images/0010/001057/105751eb.pdf

Castillo, J. J. (2009). Convenience sampling. Experiment resources: Retrieved on 7/1/ 2016 from http://www.experiment-resources.com/convenience-sampling.html

Chan, E. (2004). *Student motivation/teacher motivation*. Canada: University of Victoria.

Chandrasekar, K. (2011). Workplace environment and its impact on motivational performance in public sector organisation. *International Journal of Enterprise Computing and Business Systems. 1*, 1-19.

Clements-Croome, D. (2000). *Creating the productive workplace*. London: E & FN Spoon.

Cohen, J. (1969). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112 (1), 155–159.

Cohen, J. (1994). The earth is round ($p < .05$). *American Psychologist*, *49 (12),* 997–1003.

Cohen, L., Manion, L., & Morrison K. (2000). *Research Methods in Education* (5th ed.). London: Routledge Falmer.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. London: Routledge.

Coombs, P. H. (1985). *The word crisis in education*. *From the eighties*. New York: Oxford University Press.

Cooper, C. R. & Schindler, P. S. (2008). *Business research methods*. (10th ed). Boston: McGraw-Hill.

Copley, J. V. (2010). *The young child and mathematics* (2nd ed.). Washington, DC: National Association for the Education of Young Children.

Creswell, J. W. (2009). Research design: *Qualitative, quantitative, and mixed methods approaches* (3rd ed.) Sage Publications, Inc, Thousand Oaks, CA.

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research.* Thousand Oaks, CA: SAGE Publications.

Creswell, J., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research.* Thousand Oaks: SAGE Publications.

Curriculum Planning and Development Division (CPDD), (2006). *Mathematics Syllabus.* Singapore: Ministry of Education.

Davidson, E. (2005). The pivotal role of teacher motivation in Tanzania. *HakiElimu Working Papers*, 1-10.

Deci, E. L., Koestelr, R., & Ryan, R. M. (1999). A nieta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125, 627-668.

Deutsch, M. (2000). Justice and conflict. In M. Deutsch & P. T. Coleman (Eds.), *The Handbook of conflict resolution: Theory and practice.* San Francisco: Jossey-Bass Inc. Publishers.

Dilani, A. (2004). *Design and health III: Health promotion through environmental design.* Stockholm, Sweden: International Academy for Design and Health.

Dunford, R. W. (1992). *Organisational behaviour: An organisational analysis perspective*. Addison-Wesley Business Series, Sydney.

Ejiogu, A. (1990). *School personnel management*.Lagos: University Press.

Ejiogu, A. M. (1983). Participative management in a developing economy. *Poison or Placebo? 19 (3),* 239-247.

Envision Software Incorporated. (2007). ERG theory of motivation- Clayton P. Alderfer. Envision Software Articles. Accessed on 10/2/16 from http://www.envisionsoftware.com/articles/ERG_Theory.html.

Evans, L. (1999). *Teacher morale, job satisfaction & motivation*. London: Paul Chapman Publication.

Evans, L. (2001). Delving deeper into morale, job satisfaction and motivation among education professionals: re-examining the leadership dimension. *Educational Management Administration & Leadership, 29 (3),* 291-306.

Farrant, J. S. (1997). *Principles and practice of education*. Longman: Singapore publishers Ltd.

Fidler, B., & Atton, T. (1999). *Poorly performing staff in schools and how to manage them.* London: Routledge.

Field, A. P. (2009). *Discovering statistics using SPSS statistics*. (3rd ed). London: Sage Publications.

Finer.W, (2000). Attracting and retaining good employees: *International Journal of Management, 26 (1),* 4-19.

Fink, A. (2003). *The survey Kit*. (2nd ed). Sage: Thousand Oaks, CA.

Frederick, J. G. (2001). Why teachers leave. *The Educational Digest Journal, 66 (8),* 46-48.

Frith, H., & Gleeson, K. (2004). Clothing and embodiment: Men managing body image and appearance. *Psychology of Men and Masculinity, 5 (1),* 40-48.

Garson, G. D. (2006). *Structural equation modeling. North Carolina State University, College of Humanities and Social Sciences*. Accessed on 15/02/2016 from http://www2.chass.ncsu.edu/garson/pa765/structur.htm.

Gay, L. R., Mills, G. E., & Airasian, P. W. (2009). *Educational research: Competencies for analysis and applications* (9th ed). Upper Saddle River, New Jersey: Prentice Hall.

Ghana Education Service (GES), (2015). Meeting the challenges of education in the twenty-first century. Retrieved on 16/3/16 from http://www.moe.gov.gh/assets/media/docs/Challenges1-Educational%20Reforms(Jophus).pdf

Ghana Statistical Service (GSS) (2014). *Ghana living standards survey round 6.* Accra, Ghana: GSS.

Gottfried, A. E. (1990). Academic intrinsic motivation in young elementary school children. *Journal of Educational Psychology,* 82 (3), 525-538.

Govinda, R. & Varghese, N. V. (1993). *Quality of primary schooling in India: a case study of Madhya Pradesh.* Paris: IIEP.

Gravetter, F. J. & Wallnau, L. B. (2000). *Statistics for the behavioral sciences*. (5th ed.). Belmont, CA: Wadsworth.

Greene, J. C., Caracelli, V., & Graham, W. F. (1989). Toward a conceptual framework for mixed method evaluation designs. *Educational Evaluation and Policy Analysis, 11(3)*, 255-274.

Griffin, P. (1990). Profiling literacy development: Monitoring the accumulation of reading skills. *Australian Journal of Education, 34*, 290-311.

Guay, F., Chanal, J., Ratelle, C. F., Marsh, H. W., Larose, S., & Boivin, M. (2010). Intrinsic, identified, and controlled types of motivation for school subjects in young elementary school children. *British Journal of Educational Psychology, 80 (4),* 711–735.

Guilloteaux, M. J., & Dörnyei, Z. (2008). Motivating language learners: A classroom-oriented investigation of the effects of motivational strategies on student motivation. *TESOL Quarterly, 42 (1)*, 55-77.

Harris, M. (2000). *Human resource management: practical approach*. (2nd ed), U.S.A: Harcourt, Inc.

Herzberg, F. (1974). Motivation-hygiene profiles. *Organizational Dynamics, 3(2),* 18-29.

Herzberg, F., Mausner, B., & Snyderman, B. (1957). *The Motivation to Work*. New York: Wiley,

Hicks, S. (2011). *Palgrave Macmillan studies in family & intimate life.* (1st ed). Basingstoke: Palgrave Macmillan.

Hicks, T. (2009). *The digital writing workshop*. Portsmouth, NH: Heinemann.

Howell, R. J.(2009). The ontology of subjective physicalism. *Noûs 43 (2*), 315-345.

Howell, W. (2002). The data vacuum. *Education Next. 2 (2)*, 79-83.

Hyun, J. (2005). *Breaking the bamboo ceiling: Career strategies for Asians*. New York: HarperCollins, Inc.

Jackson, M., & Jackson, R. (1999). Courage to teach. *Instructor, 112 (1)*, 22-24.

Johnson, R.B. and Onquegbuzie, A.J. (2004). Mixed methods research: a paradigm whose time has come. *Educational Researcher*, 33 (7), 14–26.

Kadzamira, E. (2006). *Teacher motivation and incentives in Malawi.* University of Malawi: Malawi.

Kasaija, I. (1991). *Effects of monetary and non-monetary rewards on motivation among post primary institutions in Hoima and Masindi districts* (Unpublished Masters of Education dissertation). Makerere University, Kampala, Uganda.

Kassim, H. (2013). The new political economy of EU state aid policy. *Journal of Industry, Competition and Trade, 13 (1)*, 1-21.

Kavarlemo, J. M. (2000). *Identifying the organizational training needs* (Unpublished presentation to Cambridgeshire University). Fareway conference, Kampala.

Kayuni, H., & Tambulasi, R. (2007). Teacher turnover in Malawi's Ministry of Education: Realities and challenges. *International Education Journal, 8,* 89-99.

Kiseesi L. M. (1998). *Job satisfaction among support staff of Makerere University hall of residence* (Unpublished M.A education Management Thesis) MUK University.

Kloep, M & Tarifa, F (1994). Working conditions, work style and job satisfaction amonu Albanian Teachers. *International Review Ed, 40 (2),* 159 - 172.

Kreitner, R. (1989). *Management*. Arizona State University. Princeton, (pp. 430-431). New Jersey: Houghton Mifflin Co.

Kruger, A.G., & Van Schalkwyk, O. J. (1997). *Classroom management*. (2nd ed.). Pretoria: Van Schaik Publishers.

Kruger, D. J. (2003). Integrating quantitative and qualitative methods in community research. *The Community Psychologist, 36,* 18-19.

Kumar, B. R. (2013). Factors affecting the motivation of teaching staff (An empirical study with reference to engineering colleges, Krishna district). *Review of Arts and Humanities, 2 (1)*, 34-39.

Kusereka, L. G. (2003). *Factors influencing the motivation of Zimbabwean secondary teachers: An educational management perspective* (Unpublished Master's dissertation). University of South Africa.

Kusi, H. (2012). *Doing qualitative research: a guide for researchers.* Accra: Emmpong Press.

Latt, K. A. (2008). Motivating people on the way towards organizational performance. *Covalence Analyst Papers*, 1-4.

Leibowitz, P. (2003). Job satisfaction among teachers. *Nue Comment*, 7 (3),13.

Lethoko, M., Heystek, J., & Maree, J. (2001). The role of principal, teachers and students in restoring the culture of learning, teaching and service (COLT) in Black secondary schools in Pretoria region. *South African Journal of Education, 21 (4),* 30-35.

Longest, & Beautfort, B (2006). *Health policymaking in the United States*. (4th Ed). Chicago: Health Administration Press.

Longest, Beautfort, B., Jr. Jonathon, S., Rakih, & Kurt Darr. (2000). *Managing health serves organisation and system*, (4th ed). Baltimore: Health Profession Press.

Macfie, J. (2002). Narrative representations of moral-affiliative and conflictual themes and behavioral problems in maltreated preschoolers. *Journal of Clinical Child Psychology, 29 (3)*, 307-319.

Malik, M. E., Danish, R., & Usman, A. (2010). Impact of job climate and extrinsic rewards on job satisfaction of banking executives: A case of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business, 1(12),* 125-139.

Marshall, B. E. (1993). *Environmental impact study on the introduction of Chinese carps into Mozambique.* Report of FAO consultancy on Aquaculture Species Introductions-Mozambique.

Martin, A. J. (2003). The student motivation scale: Further testing of an instrument that measures school students' motivation. *Australian Journal of Teacher Education, 47 (1)*, 88-106.

Masitsa, M. G. (2005). The principal's role in restoring a learning culture in township secondary schools. *Africa Education Review, 2 (2)*, 205-220.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50 (4),* 370-396.

Maslow, A. H. (1954). *Motivation and personality*. NY: Harper.

McClelland, D. C. (1958). Methods of measuring human motivation. In J. W. Atkinson (Ed.), *Motives in fantasy, action, and society* (pp. 7-42). Princeton, NJ: D. Van Nostrand Company, Inc.

Mensah, K. W. (2011). Motivation and job commitment among teachers in four selected senior high schools in the Ashanti Region of Ghana. Retrieved on 20/1/2016 from ir.knust.edu.gh/bitstream/123456789/4465/1/MensahK.William.pdf.

Merriam, S. B. (2001). *Qualitative research and case study applications in education*. San Francisco, California: Jossey-Bass Publishers.

Mertens, D. M. (2010). *Research and evluation in education and psychology*. (3rd ed.).Los Angeles, CA: SAGE Publications, Inc.

Mertler, H. (2002), Value makes the Company. *Harvard Business Review 81*

Miles, M. B., & Huberman M. (1994).*Qualitative Data Analysis:* A Sourcebook of New Methods. 2. Beverly Hills, CA: Sage Publications.

Mitchell, M. L., & Jolly, J. M. (2010). *Research design explained* (7th ed.). Belmont, CA: Wadsworth.

Moran, A., Kilpatrick, R., Abbott, L., Dallat, J., & McClune, B. (2001). Training to teach: motivating factors and implications for recruitment. *Evaluation and Research in Education 15 (1)*, 17-32.

Morgan, G. (1998). *Images of organization*. Thousand Oaks, CA: Sage Publications.

Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40, 120–123.

Mugo, F. W., (2002). *Sampling in Research.* Accessed on 15/6/2016 from http://trochim.human.cornell.edu/tutorial/mugo/tutorial.htm.

Muijs, D. (2004). *Doing quantitative research in education with SPSS*. London, England: SAGE Publications, Ltd. Retrieved on 24/3/2015 from http://dx.doi.org/10.4135/9781849209014.

Mumanyire, M. (2005). *Factors affecting teacher motivation in secondary schools in Mukono District (Unpublished Masters of Education Dissertation).* Makerere University, Kampala, Uganda.

Murthy, D. (2003). Motivating teachers. *The Hindu, 3 (4),* 1-16. Retrieved on 19/3 / 2016 from www.noveltyjournals.com

Mustafa, M., & Othman, N. (2010). The effect of work motivation on teacher's work performance in pekanbaru senior high schools, Riau Province, Indonesia. *SOSIOHUMANIKA, 3 (2),* 259-272.

Nadeem, M., Rana, M., Lone, A., Maqbool, S., Naz, K., & Ali, A. (2011). Teacher's competencies and factors affecting the performance of female teachers in Bahawalpur (Southern Punjab) Pakistan. *International Journal of Business and Social Science, 2 (19),* 1-6.

Nafiu, L.A. (2012). "Comparison of One-Stage, Two-Stage, and Three Stage Estimators Using Finite Population". *Pacific Journal of Science and Technology. 13 (2)*,166-171.

National Council of Teachers of Mathematics, (2016). Twenty years and onwards: expanding boundaries in mathematics education. Retrieved on 5/3/16 from http://mathted.weebly.com/mathted-2016-conference.html.

National Education Assessment (NEA), (2015). *Findings report*. Ministry of Education, Ghana Education Service, Accra: Assessment Service Unit.

NetMBA.com. (2007). McClelland's Theory_._NetMBA: Business Knowledge Center. Retrieved on 3/2/16 from http://www.netmba.com/mgmt/ob/mcclelland/.

Ofori-Attah, K. D. (2007). *Expansion of higher education in Ghana: Moving beyond tradition.* Paper presented at the Comparative and International Education Newsletter, Florida International University.

Osei, G. M. (2006). Teachers in Ghana: Issues of training, remuneration and effectiveness. *International Journal of Educational Development, 26*, 38-51.

Ouma, L. (2007). *Effect of motivational theory to the performance of primary school teacher in Kampala District* (Unpublished Masters of education dissertation). Makerere University, Kampala, Uganda.

Pallant, J. (2005). *SPSS survival manual*. Crows Nest: Allen & Unwin.

Patton, M. Q. (2002a). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Patton, M. Q. (2002b). *Qualitative evaluation and research methods.* New Delhi: SAGE Publications.

Pennsylvania State University World Campus (PSWC). (2013). *PSYCH 484, Lesson 6: Goal-Setting Theory: What am I trying to achieve in my work?* Retrieved on 15/2/ 2016 from https://courses.worldcampus.psu.edu/sp13/psych484/001/content/lesson06/lesson06_01.html

Plano Clark, V. (2010). The adoption and practice of mixed methods: U. S. trends in federally funded health-related research. *Qualitative Inquiry*, 16 (6), 428–440.

Redmond, B. F. (2009). *Equity Theory: Is what I get for my work fair compared to others? Work Attitudes and Motivation*. The Pennsylvania State University: World Campus.

Redmond, B. F. (2010). *Lesson 5: Equity theory: Is what I get for my work fair compared to others? Work Attitudes and Motivation*. The Pennsylvania State University: World Campus.

Robbins, S. P. & Judge, T. A. (2013). *Organizational behavior* (15th ed.). Upper Saddle River, N.J.: Pearson/Prentice Hall.

Robbins, S. P., Millett, B., Cacioppe, R. & Waters-Marsh, T. (1998). *Organizational behaviour: Leading and Managing in Australia and New Zealand*, Prentice Hall, Sydney.

Robbins, S.P., Judge, T. A. & Sanghi, S. (2009). *Organizational behaviour* (13th ed.). New Delhi: Doring Kindersley pvt. Ltd.

Ruland, C. M., Bakken S., & Røislien J. (2007). Reliability and validity issues related to interactive tailored patient assessments: a case study. *J Med Internet Res; 9 (3),* 34-40.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.

Saetang, J. & Babel, S. (2010). Fungi immobilization for landfill leachate treatment. *Water Science and Technology, 62(6),* 1240-1247.

Salifu, I. (2013). Improving teacher identity and professional practice: Does motivation matter? In J. Madden & R. Smith (Eds.), Teacher Education Dialogue: Innovations: proceedings of conference held from 2-3 August, 2012 at Southern Cross University, Australia.

Salifu, I., & Agbenyega, J. S. (2013). Viewing teacher motivation in the Ghana Education Service through a postcolonial lens. *Current Issues in Education, 16*(3). Retrieved on 14/3/16 from http://cie.asu.edu/ojs/index.php/cieatasu/article/view/1218.

Sansone, C., & Harackiewicz, J. M. (2000). *Intrinsic and extrinsic motivation*: The search for optimal motivation and performance. San Diego, CA: Academic Press.

Sarpong, M. (2002). *Ghanaian teachers dying out of frustration*. Retrieved January 15, 2016, from http://www.newsfromafrica.org.

Sergiovanni, T. J. (1998). Leadership as pedagogy, capital development and school effectiveness. *International Journal of Leadership in Education: Theory and Practice, 1 (1),* 37-46.

Shanks, H. N. (2012).*Management and Motivation*. Jones and Bartlett Publishers.

Situma, R. N. & Iravo, M. A. (2015). Motivational Factors Affecting Employees' Performance In Public Secondary Schools In Bungoma North Sub County, Kenya. *International Academic Journal of Human Resource and Business Administration*, *1(5),* 140-161.

Skarlicki, D. P., & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology, 82,* 434-443.

Skinner, B.F. (1969). *Contingencies of reinforcement: a theoretical analysis.* New York: Appleton-Century Crofts.

Smit, B. (1994). *Management strategies of the school principal with a view to satisfaction among teachers* (Unpublished M.Ed. dissertation) Pretoria: University of Pretoria.

Stecher, M. D. & Rosse, J. G. (2005). The distributive side of interactional justice:The effects of interpersonal treatment on emotional arousal. *Journal of Managerial Issues, 22,* 229-246.

Steckler, A., McLeroy, K. R., Goodman, R. M., Bird, S. T. & McCormick, L. (1992). Toward integrating qualitative and quantitative methods: An introduction. *Health Education Quarterly,* 19, 1–8.

Stewards, J. & Spence, R. (1997). A new look at factors related to college morale. *Educational Research Quarterly, 20 (3),* 29-40

Steyn, G. M. (2002). A theoretical analysis of educator motivation and morale. *Educare. 31*(1 & 2), 82-101.

Stuart-Kotze, R. (2009). *Motivation theory. Goal setting guide:* Retrieved on 2/3/16 from http://www.goal-setting-guide.com/motivation-theory.html.

Tanaka, C. (2010). *An exploration of teacher motivation: A case study of basic school teachers in two rural districts in Ghana.* (Unpublished Doctor of Philosophy Thesis), University of Sussex.

Tashakkori, A., & Teddlie, C. (Eds.). (2003). *Handbook of mixed methods in social and behavioral research.* Thousand Oaks: SAGE Publications.

Thalheimer, W., & Cook, S. (2002). *How to calculate effect sizes from published research articles: A simplified methodology*. Retrieved 10/2/2016, from http://work-learning.com/effect_sizes.htm.

Turner, J. C. (1995). The influence of classroom contexts on young children's motivation for literacy. *Reading Research Quarterly, 30 (3)*, 410–441.

UNESCO. (2011). *Teacher policies and practices for EFA in Nigeria, Ghana, South Africa and Uganda. Synthesis Report,* Retrieved on 2/2/2016 from www.teachersforefa.unesco.org/.

Van Amelsvoort, G., Hendricks, M. A., & Scheerens, J. (2000). Selection and development of international indicators on staffing. *Educational Economics, 8(1)*, 17 – 36.

Velez, S. (2007). *What is motivation?* Ezine articles. Retrieved on 5/3/2016 from http://ezinearticles.com/?What-Is-Motivation&id=945902.

Vroom, V. H. (1964). *Work and motivation*. San Francisco, CA: Jossey-Bass.

Wayne F. C. (2008). *Managing Human Resources: Productivity Quality of work life and profit* (5th Ed.). New York, Mc Grain Hill. Retrieved on 16/2/16 from www.tutor2u.net/business/people/motivation.

Wayne, A. J. & Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational Research, 73(1),* 89-122.

Webster Dictionary (2014). *Newest Edition*. Retrieved on 15/6/2016 from https://www.amazon.com/s?ie=UTF8&page=1&rh=i%3Aaps%2Ck%3AWebster%27s%20 .

Webster, M. (1985). *Webster`s ninth new collegiate dictionary*. Meriam-Webster Inc.

Weiss, D. J., Dawis, R. V., England, G. W., & Lofquist, L. H. (1967). *Manual of the minnesota satisfaction questionnaire.* Minneapolis: MN: The University of Minnesota Press.

Williams R. (2010). *How to motivate employees: What managers need to know.Wired for Success.* Retrieved on 4/3/16 from https://www.psychologytoday.com/blog/wired-success/201002/how-motivate-employees-what-managers-need-know.

Winslow, E. K. (1990). The issue of motivating entrepreneurial behavior. *The Journal of Creative Behavior*, 24 (4), 256-262.

Youlonfoun, L. (1992). *Value orientation, needs satisfaction and job performance of public servants in Akwa Ibom State* (A Ph.D. dissertation). University of Calabar, Nigeria.

Young, M. M. (2002). *Cooperative infrastructures for small water systems: A case study. Virginia water resources research center*. Special Report. SR 22-2002.

Zembylas, M., & Papanastasiou, E. (2004). Job satisfaction among school teachers in Cyprus. *Journal of Educational Administration, 42,* 357–374.

APPENDICES

APPENDIX A

UNIVERSITY OF EDUCATION, WINNEBA

FACULTY OF EDUCATIONAL STUDIES

DEPARTMENT OF BASIC EDUCATION

QUESTIONNAIRE FOR TEACHERS

This questionnaire is part of a research study of the factors affecting lower primary mathematics teachers' motivation in public basic schools in the Awutu Senya West District in the Central Region.You are kindly requested to complete the questions to the best of your knowledge. Your response will be kept confidentially and your anonymity is assured.

SECTION A: BACKGROUND INFORMATION

1.Gender: Male [ ]
Female [ ]

2. What is your highest academic qualification?

a) Master's Degree [ ]
b) Bachelor's Degree [ ]
c) Diploma [ ]
d) Certificate [ ]
e) Any other (specify) _____

3. Age Bracket

a) 18-25 Years [ ]
b) 26-35 Years [ ]
c) 36-45 Years [ ]
d) 46-55 Years [ ]
e) Above 55 Years [ ]

4. How long have you been in the teaching profession?

a) Less than two years [ ]
b) 2-5 yrs. [ ]
c) 6-10 yrs. [ ]
d) 11-15 yrs. [ ]
e) Over 15 years [ ]

SECTION B: TWO FACTOR THEORY AND JOB PERFORMANCE

The purpose of this questionnaire is to give you a chance to express how you feel about your present job, what things you are motivated with and which you are not motivated with and how these are affecting your job performance. Please tick [√] in the appropriate space provided below and supply answers where required. If you want to change an item you have already ticked, put a cross [×] over the selected item and tick the new item.

No	*Working Condition*	Not Motivating	Slightly Motivating	Motivating	Very Motivating	Extremely Motivating
1	The pleasantness of the working condition in my school					
2	The physical surrounding where I work					
3	The physical working condition of the job I do					
4	The working condition (heating, lighting, ventilation) on this job					
5	The remuneration associated with my current position					
6	The pay associated with my current position					
No	***Creativity***	**Not Motivating**	**Slightly Motivating**	**Motivating**	**Very Motivating**	**Extremely Motivating**
7	The chance to try something different when I am to make a decision in relation to my current position					
8	The chance to do new and original things on my own without external influence from my supervisors					
9	The chance to try out					

	some of my own ideas					
10	The chance to try my own professional method of doing the job I am assigned to					
No	***Educational Policies***	**Not Motivating**	**Slightly Motivating**	**Motivating**	**Very Motivating**	**Extremely Motivating**
11	The way educational authorities involve teachers in planning organizational policies					
12	The way the educational policies are put into practice by school authorities					
13	The way educational authorities inform employees about educational policies					
14	The policies and practices toward teaching and non-teaching staffs of the company					
No	***Technical Supervision***	**Not Motivating**	**Slightly Motivating**	**Motivating**	**Very Motivating**	**Extremely Motivating**
15	The way my supervisor provides technical help on hard assigned problems and duties					
16	The competence of my supervisor in making technical decision in relation to my work					
17	The way my supervisor delegates work to lower primary mathematics teachers					
18	The technical know-					

	how of my supervisor in performing his supervision role in my school					
No	***Recognition***	**Not Motivating**	**Slightly Motivating**	**Motivating**	**Very Motivating**	**Extremely Motivating**
19	The way I am noticed and motivated by my supervisors when I do a good job					
20	The praise I get for doing a good job					
21	The way I get full credit for the work I do					
22	The way my supervisor lets me know when I do my job well					
No	***Responsibility***	**Not Motivating**	**Slightly Motivating**	**Motivating**	**Very Motivating**	**Extremely Motivating**
23	The freedom to use my own judgment					
24	The chance to be responsible for the work of others					
25	The chance to make decision on my own					
26	The chance to be responsible for planning my work					
No	***Job Performance***	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Disagree**
27	Lower primary school mathematics teachers come very early in my school					
28	Lower primary school mathematics teachers always come with lesson notes in class.					
29	There is regular marking of tests, homework, etc. and feedback to pupils for correction					

30	Teachers actively participate in co-curricular activities					
No	***Job Performance***	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Disagree**
31	There is regular testing and examination of students by lower primary school mathematics teachers					
32	Lower primary school mathematics teachers supervise all school activities					
33	There is regular attendance to class lessons by lower primary school mathematics teachers					
34	Lower primary school mathematics teachers regular attend to extra lessons					
35	Teachers are efficient at maintenance of students discipline					
36	The turn up of lower primary school mathematics teachers in staff meetings is high					

APPENDIX B

INTERVIEW SCHEDULE GUIDE FOR MATHEMATICS TEACHERS

SECTION A - BACKGROUND INFORMATION

1. Gender
- **a.** Male [ ]
- **b.** Female [ ]

2. Age
- **a.** 20 - 30 [ ]
- **b.** 31 - 40 [ ]
- **c.** 41 - 50 [ ]
- **d.** 51 and above [ ]

3. Academic Qualification
- **a.** Cert A [ ]
- **b.** Diploma [ ]
- **c.** Bachelor's Degree [ ]
- **d.** Master's Degree [ ]
- **e.** Others ……

4. How long have you been teaching?
- **a.** 1 – 5 year(s) [ ]
- **b.** 6 – 10 years [ ]
- **c.** 11 – 15 years [ ]
- **d.** 16 – 20 years [ ]
- **e.** 21 years and above [ ]

5. How long have you been teaching mathematics in this school?……

6. At what class are you teaching mathematicsin your school?.....

SECTION B

Question 1: What in your view are some of the factors motivatinglower primary mathematics teachers in your school?

Question 2a: Which factor(s) motivates you the most?

2b: Do you have any reason for your preference? Please explain further

Question 3: In your opinion do you think lower primary mathematics teachers are performing their duties as expected of them? Please explain further and give practical examples?

Question 4a: In your own view can you explain how factors motivating you and other lower primary mathematics teachers lead to excellent teacher job performance?

Question 5a: What challenge or barriers do you mostly see preventing school authorities in providing the necessary motivations needed by lower primary mathematics teachers in performing their duties in your school?

Question 5b: What solutions do you suggest can be used to mitigate the identified challenges?

INTERVIEW SCHEDULE GUIDE FOR HEAD TEACHERS

SECTION A - BACKGROUND INFORMATION

1. Gender
a. Male [ ]
b. Female [ ]

2. Age
a. 20 - 30 [ ]
b. 31 - 40 [ ]
c. 41 - 50 [ ]
d. 51 and above [ ]

3. Academic Qualification
a. Cert A [ ]
b. Diploma [ ]
c. Bachelor's Degree [ ]
d. Master's Degree [ ]
e. Others ……

4. How long have you been teaching?
a. 1 – 5 year(s) [ ]
b. 6 – 10 years [ ]
c. 11 – 15 years [ ]
d. 16 – 20 years [ ]
e. 21 years and above [ ]

5. How long have you been in the headship position in this school?.....

SECTION B

Question 1: What in your view are some of the factors motivating lower primary mathematics teachers in your school?

Question 2a: How do you ensure that your lower primary mathematics teachers are motivated and remain motivated?

Question 3: In your opinion do you think lower primary mathematics teachers are performing their duties as expected of them? Please explain further and give practical examples?

Question 4a: In your own view can you explain how factors motivating lower primary mathematics teachers lead to excellent teacher job performance?

Question 5a: What challenge or barriers do you mostly see preventing you and other school authorities in providing the necessary motivations needed by teachers in performing their duties in your school?

Question 6a: What solutions do you suggest can be used to mitigate the identified challenges?

Question 6b: Please do you think there are any other area(s) that needs to be included in this interview section?

APPENDIX C

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	150	100.0
	Excluded[a]	0	.0
	Total	150	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.870	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The technical know-how of my supervisor in performing his supervision role in my school	7.39	6.562	.713	.838
The competence of my supervisor in making technical decision in relation to my work	7.29	6.568	.778	.812
The way my supervisor delegates work to teachers	7.27	6.911	.714	.837
The way my supervisor provides technical help on hard assigned problems	7.35	6.819	.688	.847

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	150	100.0
	Excluded[a]	0	.0
	Total	150	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.910	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The chance to try out some of my own ideas	8.05	8.655	.787	.886
The chance to try something different when I am to make a decision in relation to my current position	7.99	8.195	.835	.869
The chance to do new and original things on my own without external influence from my supervisors	8.00	8.081	.810	.878
The chance to try my own professional method of doing the job I am assigned to	7.87	8.554	.751	.898

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	149	99.3
	Excluded[a]	1	.7
	Total	150	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.869	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The way I am noticed and motivated by my supervisors when I do a good job	7.47	7.129	.676	.849
The way I get full credit for the work I do	7.54	7.129	.753	.822
The praise I get for doing a good job	7.40	6.418	.769	.812
The way my supervisor lets me know when I do my job well	7.39	6.766	.693	.844

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	147	98.0
	Excluded[a]	3	2.0
	Total	150	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.857	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The chance to be responsible for planning my work	7.01	7.109	.753	.798
The chance to make decision on my own	7.01	7.199	.739	.804
The chance to be responsible for the work of others	7.18	6.932	.676	.829
The freedom the use my own judgment	7.16	6.864	.650	.842

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	147	98.0
	Excluded[a]	3	2.0
	Total	150	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.939	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The working condition (heating, lighting, ventilation) on this job	10.27	20.460	.841	.925
The physical surrounding where I work	10.33	21.372	.856	.922
The pleasantness of the working condition in my school	10.25	20.833	.883	.919
The physical working condition of the job I do	10.28	22.093	.859	.923
The remuneration associated with my current position	10.45	22.797	.799	.930
The pay associated with my current position	10.56	23.713	.679	.943

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	150	100.0
	Excluded[a]	0	.0
	Total	150	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.898	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The way the educational policies are put into practice by school authorities	5.69	5.613	.812	.853
The way educational authorities inform employees about educational policies	5.63	5.524	.825	.848
The way educational authorities involve teachers in planning organizational policies	5.77	5.804	.816	.853
The policies and practices toward teaching and non-teaching staffs of the company	5.56	6.127	.646	.914

APPENDIX D

UNIVERSITY OF EDUCATION, WINNEBA
DEPARTMENT OF BASIC EDUCATION
P.O. BOX 25, Winneba Ghana Tel. (0432) 22036
E-Mail: Basic@uew.edu.gh

Our: DBE/M.PHIL.67/VOL.2/7 Date: February 11, 2015
Your Ref:

The Director
Awutu Senya Beraku
P. O. Box 11
Awutu Beraku

Dear Sir,

LETTER OF INTRODUCTION

I introduce to you Ms. Kafui Dennueme, an M.Phil student of the Department of Basic Education of University of Education, Winneba.

She wishes to carry out her research survey in your outfit and would therefore need your assistance.

I would be grateful if she is given the needed assistance.

Thank you.

Yours faithfully,

ASONABA KOFI ADDISON (PhD)
(Ag. Head of Department)

APPENDIX E

GHANA EDUCATION SERVICE

In case of reply the number and Date of this letter should be Quoted

REPUBLIC OF GHANA

AWUTU-SENYA DISTRICT EDUCATION OFFICE
P.O. BOX 11
BEREKU

10th March, 2015

My Ref No: GES/CR/ASDO/202 /VOL.1/ 26
You're Ref. No: .....

PERMISSION TO CONDUCT RESEARCH

Approval has been granted to Ms. Kafui Denueme of the Department of Basic Education of the University of Education, Winneba to conduct educational research into **Exploring factors determining basic school mathematics teachers' motivation and its effect on their job performance** in the Awutu Senya District.

We look forward to officers cooperating with the researcher.

Thank you.

.....
ANNA BELINDA BAIDOO (MRS)
DISTRICT DIRECTOR OF EDUCATION
AWUTU-SENYA

MS. KAFUI DENUEME
UNIVERSITY OF EDUCATION, WINNEBA
DEPARTMENT OF BASIC EDUCATION
FACULTY OF EDUCATIONAL STUDIES
P O BOX 25
WINNEBA