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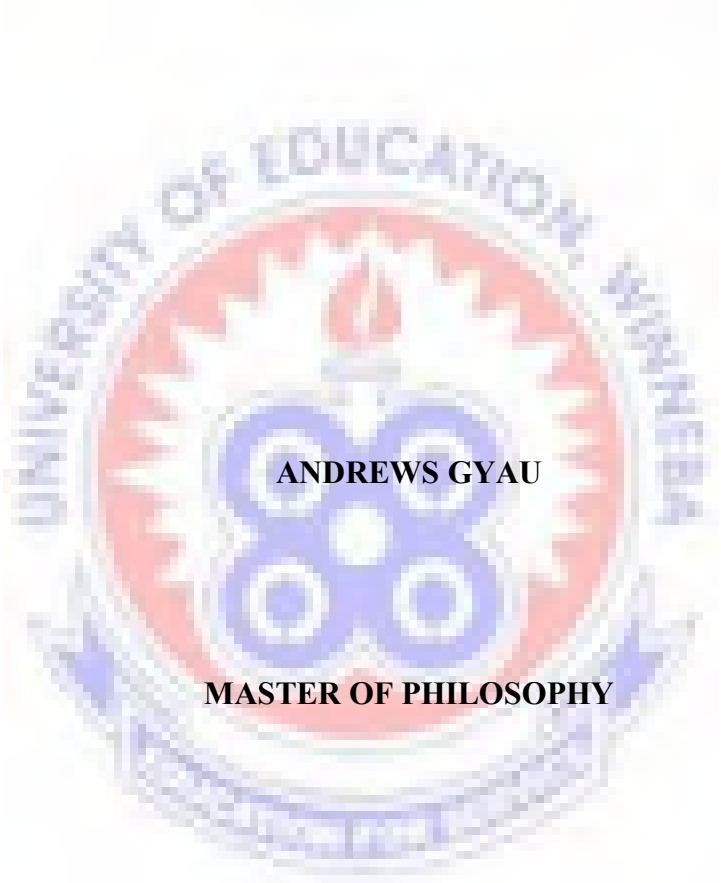
HOME FACTORS OF BASIC SCHOOL PUPILS AND ACADEMIC ACHIEVEMENT IN MATHEMATICS IN THE AMANSIE WEST DISTRICT



ANDREWS GYAU

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HOME FACTORS OF BASIC SCHOOL PUPILS AND ACADEMIC ACHIEVEMENT IN MATHEMATICS IN THE AMANSIE WEST DISTRICT

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A thesis in the Department of Basic Education, Faculty of Educational Studies, submitted to the School of Graduate Studies, in partial fulfillment of the requirements for the award of the degree of Master of Philosophy (Basic Education) In the University of Education, Winneba

SEPTEMBER, 2019

DECLARATION

Student's Declaration

I, ANDREWS GYAU, declares that this Thesis, with the exception of quotations and references contained in published works which have been identified and acknowledged, is surely my own original work and it has not been submitted either in part or whole for another degree elsewhere.

SIGNATURE: ……..

DATE: ……..

Supervisors' Declaration

We hereby declare that the preparation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University of Education, Winneba.

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DATE: ……..

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DEDICATION

To my late mother Akua Aniwaah of blessed memory. The woman who never reaped what she sowed.

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LIST OF ACRONYMS

SES:	Socio-economic status
UNICEF:	United Nations International Children's Emergency Fund
PISA:	Programme for International Student Assessment
FAWE:	Forum for African Women Educationalists
KCSE:	Kenya Certificate of Secondary Education
GES:	Ghana Education Service
EMIS:	Educational Management Information System
SBA:	School Based Assessment
AWDEO:	Amansie West District Education Office
CH:	Child
PT:	Parent

ABSTRACT

One cannot dispute the fact that the home plays a critical role in the mathematics learning of children. Pupils in school are exposed to the same instructional activities but their performances differ. Differences in home environments contribute much to their performances in school. This study, therefore, sought to explore how home factors of Basic School pupils contribute to their academic achievement in mathematics in the Amansie West District of Ghana. The purpose of this study was to explore the influence of home factors of basic school pupils on their academic achievement in mathematics in the Amansie West District. The study was conducted in the district to check whether parental supervisory roles in the house, parental educational status, parental financial status and home environment and household chores affect pupils learning of mathematics. The study adopted a case study research approach. The qualitative approach of data collection was employed. A sample of 12 people comprising six Class 3 pupils and their respective parents were used for the study. The sample was drawn from Manso Nkwanta, Manso Dominase and Manso Suntreso. Data collection instrument used was an interview, document analysis and observation. The audiotape recording of interview sessions was transcribed and thematic approach used to analyse data for all the research questions. From the study, it was revealed that Parental supervisory roles contributed to the performance of pupils in mathematics. Parental academic status motivated pupils to learn in order to go higher than their parents on the educational ladder. Also, it contributed to the poor performance of pupils in mathematics. Parental financial status contributed the contributed to their performance of pupils in mathematics. The study also revealed that pupils play too much in their environment hence their poor performance. The study further revealed that household chores do not have any influence on pupils' academic achievement in mathematics. Pupils' home environment accounted for their poor performance. From the study, it was concluded that home differences of pupils account for the effectiveness of their performance in school. This is because pupils are exposed to the same curriculum in their classrooms but their performance varies. Following from the findings, some recommendations are made.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Mathematics is the science of reasoning and computations (Isack, 2015). It is the science or study of numbers, quantities or shapes. Kitta (2004) defines mathematics as the language that helps us to describe ideas and relationships drawn from the environment. Mathematics enables one to make the invisible to be visible, thereby solving problems that would be impossible otherwise. Mathematical demands on students increase as they progress through school; take up their adult lives at home and in the workplace. In order to function in a mathematically literate way in the future, students must have a strong foundation in mathematics. A strong foundation involves much more than the rote application of procedural knowledge. Ontario Ministry of Education report (2005) shows that all students should be able to understand, make sense of and apply mathematics; make connections between concepts and see patterns throughout mathematics. The report maintains that students must be able to communicate their reasoning, the flexibility of thinking that will allow them to tackle new areas of mathematics and be willing to continue in doing mathematics.

Mathematics is one of the important subjects we study. Everyone needs to develop mathematical concepts and skills to help him/her understand and play a responsible role in society. Mathematics education aims to provide students with those skills and understandings (Ministry of Education, 2012). The need for people to be numerate has always been identified as an important outcome. Mathematics education aims to contribute to the development of a broad range of numeracy skills. In an increasingly technological age, the acquisition of problem-solving and decision-making skills is an important requisite. Mathematics education provides the opportunity for

students to develop these skills and encourages them to become flexible problem solvers (Ministry of Education, 2012). Learning mathematics aims to link school to everyday life, provide skill acquisition, prepare students for the workforce, and foster mathematical thinking. Mathematics involves learning to problem-solve, probe, depict and communicate mathematical concepts and ideas, and making connections to everyday life (Ontario Ministry of Education, 2005).

A home is a place of residence or refuge and comfort (Malsawmtluanga & Fanai, 2018). It is usually a place in which a person or a family can rest and be able to keep personal property. Most modern-day households contain sanitary facilities and a kitchen. Animals have their own homes as well, either living in the wild or in a domesticated environment (Guerrera, 2009). As an alternative to the definition of "home" as a physical locale, home may be perceived to have no physical definition-instead, home may relate to a mental or emotional state of refuge or comfort (Malsawmtluanga & Fanai, 2018). A home is a place where pupils live with their parents or guardians and it is the place where they are groomed (Collins, 2007). Machana, Kevogo, and Mwebi (2017) suggested that a home is a place where the pupils begin to learn the norms and values of the society in which they find themselves. A family is a social unit in any society and it is the source of early stimulation and experience in children (Collins, 2007). The home influences the child at the most vital time of life a time when the mind is most receptive and provides the first impression which may last through the whole of the child's life (Machana, Kevogo, & Mwebi, 2017). The child often sees the parents, siblings and things in their immediate home environment to be most significant and they are capable of promoting or diminishing them in self-worth and academic performance (Ekanem, 2004).

Home environments vary in many aspects such as the parents' level of education, economic status, occupational status, religious background, values, interests, parents' expectation for their children, family size and among others. Pupils coming from different home environments are affected differently by such variations (Ogoye, 2007). The challenges that pupils in public schools face cannot be solved by educators alone; nor can these problems be solved by parents or families alone (Ray & Lancaster, 2003). Students in schools are confronted by critical social, emotional, and environmental problems. More collaboration between the school and home will need to be focused on dealing with these problems (Drake, 2000).

The home environment also affects the academic performance of students in mathematics. Educated parents can provide such an environment that suits best for the academic success of their children. The school authorities can provide counseling and guidance to parents for creating a conducive home environment for improvement in students' quality of work in mathematics (Marzano, 2003). The academic performance of students heavily depends upon the parental involvement in their academic activities to attain the higher level of quality in academic success especially in purchasing relevant workbooks and textbooks, assisting them in their home works, etc (Barnard, 2004). These supports indicates the commitment the home has in educating children.

Kunje (2009) observed that wealthier families seemed to influence the achievement of their children in school more than poorer families by providing for the needs of their wards and encouraging them to go to school. However, absenteeism, ill health, malnutrition, hunger and other elements of children from poor families may be militating against their growth and achievement in school (Muola, 2010). More so, wealthier families tend to hire the services of teachers to handle their wards in the house.

Such children or pupils tend to learn ahead of their regular school mates or have the privilege to be retaught what they learnt at school.

Considine and Zappala (2002) agree that social and economic status is determined by an individual's achievement in education, employment, occupational status and income. According to Parson, Stephanie and Deborah (2001), socioeconomic status is an expression which is used to differentiate between people's relative status in the community regarding family income, political power, educational background and occupational status. Saifi and Mehmood (2011) state that socio-economic status is a combined measure of the economic and social position of an individual or family relative to others on the basis of income, education and occupation. Onsomu (2006) found that students from homes with better quality houses, who always speak English at home, had most learning materials, who ate at least three meals per day, who had many possessions and more educated parents achieved better in school. Atkinson and Feather (1966) as cited in Muola (2010) observed that the achievement motivation of children whose fathers have attained high educational levels and are in high-income occupations tends to be high. Muola (2010) observed that students' motivation to do well in academic work is dependent on the nature of their home environment. Pupils who are motivated well tend to achieve well in school.

Ahmad and Khan (2012) and Ahmar and Anwar (2013) found a significant relationship between parental socio-economic conditions and academic achievements of the children in secondary examination and it was concluded that the majority of children whose parents have better socio-economic conditions performed better in secondary examination as compared to those children whose parents had low socio-economic conditions. Ngorosho (2011) found five key variables (fathers' and mothers' education, house wall material, light source, and the number of books for school

subjects in the homes) as significant indicators of the home environment in rural eastern Tanzania. Ahawo (2009) found that in modern society, parents' influence plays a very important role in the academic life of a student. According to Otula (2007), the effective provision of secondary education is hampered by the socio-economic status of parents. Parents from low socio-economic status fail to provide their children with basic requirements for schools including books, pens or pencils, proper nutrition and supportive environment for learning. It is generally accepted that parental socio-economic status has an impact on students' academic achievement. For example, children whose parents are of high educational scales have a far better statistical chance of participating in secondary education (Halsey, Health & Ridge, 1980). Otula (2007) supported this by stating that effective learning involves the partnership of students, teachers and parents. Parents' level of education has a varied impact on children's ability to learn in school. In one study, children whose parents had primary school education or less were more than three times likely to have low test scores or grade repetition than children whose parents had at least secondary schooling (Goodwin & Goodwin, 1995). In the same study, it was also found that parents' level of education not only influenced parent-child interaction related to learning but also the need for help at home that often comes at the expense of keeping children in school. Parents with little formal education may also be less familiar with the language used in school, limiting their ability to support learning and participate in school related activities (Omoraka, 2001).

According to a study conducted by Kunje (2009), there is a significant relationship between the parental level of education and the students' education aspirations. Evidence that the largest education casualties come from the lower social classes is overwhelming (Kunje, 2009). Poor children come from home environments

that are educationally impoverished and the conditions nearly affect every aspect of life. The low background status perpetuates educational deprivation. Poor families will certainly find it difficult to pay fees. Moreover, poor families on average tend to have more school-age children at home than higher income families. Wealthier and better educated parents utilize basic education and deploy resources in a manner that creates preschool conditions which are conducive to successful school performance. This provides initial advantages which are difficult to match among the poor, uneducated slum dwellers and rural areas (Ayoo, 2002). Families set the lifestyle and influence life chances for the child. The life which a family attaches to school determines the motivation with which its children pursue basic education.

Ogoye (2007) asserts that illiterate parents were unable to assist their students in doing homework. The importance of parental involvement in children's academic success is an unquestionable assumption. Independent of the parents' type of involvement in education or schooling, in general, hundreds of studies have demonstrated a predominance of positive correlations between this variable and students' academic achievement (Muola 2010).

According to Mwoma (2010), education usually entails expenses such as buying reading materials, stationery among others. This introduces the element of family economic status into question. As a result, studies have noted that economic status determines the extent of parental involvement in their children's education. Parents who are illiterate and poor and cannot afford to buy supplementary learning materials are less likely to be actively involved in their children's education. They are caught up with different chores to fend for their families and, paradoxically, children are expected to engage in some form of child labour that can contribute towards family provisioning and sustenance.

Ogoye (2007) notes that socio-economic status is a critical issue in many African communities where illiteracy and poverty levels are high, thus limiting parental involvement in homework. In some cases, learning and reference materials have to be shared among students, and not all parents are able to buy for their children personal subject-specific text copies. Most important is the fact that some parents expect the children to help them after school, during the time the children are expected to undertake their homework assignments. Child rearing practices vary with socio-economic background and parental level of education. A study by Muola (2010) has revealed that the achievement motivation of students whose fathers have attained high educational level and are in high income occupations tend to be high. Achievement motivation has been shown to be higher in working than the middle class.

Parent's educational level has a direct impact on their student's educational aspirations (Okantey, 2008). Children schooling is positively related to their parents because students tend to imitate their parents and also aspire to be highly educated as their parents. Children are more disadvantaged when their parents have low education level; forming a cycle of uneducated family members and making every generation of the family not to go higher than their parents. Children from highly educated families are more ambitious and attain higher levels of education.

The home environment has consistently been found to be positively associated with a child's academic performance (Hara and Burke, 1998). Specifically, children whose parents at home are more involved in their education have higher levels of academic performance than children whose parents are involved to a lesser degree (Rani & Siddiqui, 2015). The influence of parents' involvement on academic success has not only been noted among researchers but also among policy makers who have integrated efforts aimed at increasing parent involvement into broader educational

policy initiatives. Coupled with these findings of the importance of early academic success, a child's academic success has been found to be relatively stable after early elementary school (Entwisle and Hayduk, 1998). It is important to examine factors that contribute to early academic success and that are capable to change. The home environment is essentially the most important factor in this regard.

Mathematics learning in schools is mostly affected by so many factors including the home. Academic achievement of pupils especially at the basic school level is not only a pointer to the effectiveness or otherwise of schools but a major predictor of the future of young ones in particular and the nation in general. Learning outcomes have become a phenomenon of interest to all and this accounts for the reason why scholars have been working hard to untangle factors that militate against good academic performance (Aremu & Sokan, 2003). This scenario has been otherwise referred to in the literature as academic achievement, or scholastic functioning. Academic achievement of learners has attracted the attention of scholars, parents, policy-makers and planners. Adeyemo (2001) opined that the major goal of the school is to work towards the attainment of academic excellence by pupils. According to him, the school may have other peripheral objectives but the emphasis is always placed on the achievement of sound scholarship. Besides, virtually everybody concerned with mathematics education places a premium on academic achievement; excellent academic achievement of children is often the expectation of parents (Osiki, 2001).

The influence of the home differences on pupils' academic achievement in mathematics at the individual level is still popular, but less strong in much of the literature. There is an awareness of the relevance of the home factors on pupils academic achievement in mathematics. The home has a great influence on the pupils' psychological, emotional, social and economic state. In the view of Ajila and Otutola

(2000), the state of the home affects the individual since the parents are the first socializing agents in an individual's life. This is because the family background and context of a child affect his reaction to life situations and his level of mathematics performance. Although, the school is accountable for the experiences that make up the person's life during school periods, parents and the individual's experiences at home play tremendous roles in building the character of the child and making the child what he is. Thus, Ichado (1998) concluded that the environment in which the student comes from can greatly influence his mathematics performance in school.

The state of the home may influence personality since the parents are the first socializing agents in an persons's life. This is because the family background and context of a child affect his reaction to life situations and his level of academic achievement. Since no country can rise above the level of education of her citizens.

Parental supervisory roles in the house encourage pupils to learn effectively in their various homes. Parents who are much educated assist pupils in learning mathematics and also encourage them to learn. Parents must supervise the activities of school children in the house. As the jargon goes, "All work and no play makes Jack a lazy boy and all play and no work makes Jack a lazy boy." Educated parents apportion pupils' time well so that school children in the house will know when to play, when to learn and when to assist them in household chores. Parents can delegate elderly siblings to help in this exercise.

It is assumed that parents who neglect this responsibility have no interest in their wards education hence the poor performance of pupils in mathematics and vice versa. The problem in Amansie West District is that most pupils do not do their home works in their homes but rather prefer to do it in their schools the next morning. This probably is due to the fact that these parents do not supervise learning activities in the house. The

parents rather think that learning takes place only in the school and it is the responsibility of teachers to see to it that learners perform well. Also, parents must supervise their wards to revise whatever was taught in school in their homes. On the other hand, if they are busy and have tight schedules, elderly siblings can be instructed to perform that activity.

Parental educational status does affect pupils' performance in school hence mathematics learning. Educated parents have a keen interest in their wards learning of mathematics. They support them in diverse ways like providing them with necessary reading materials, mathematical tools and equipment, assist them at home in learning, monitoring their performance both at home and at school. Most parents want their wards to exceed academic qualification thus letting them have a keen interest in their wards learning of mathematics. This is because a pass in mathematics guarantees one progress to the next level of education. The situation in Amansie West is that most parents have low literacy level hence cannot assist wards in the house to learn. Figure 1 depicts the level of education by the Ghana Statistical Service for the 2010 Population and Housing Census in the district.

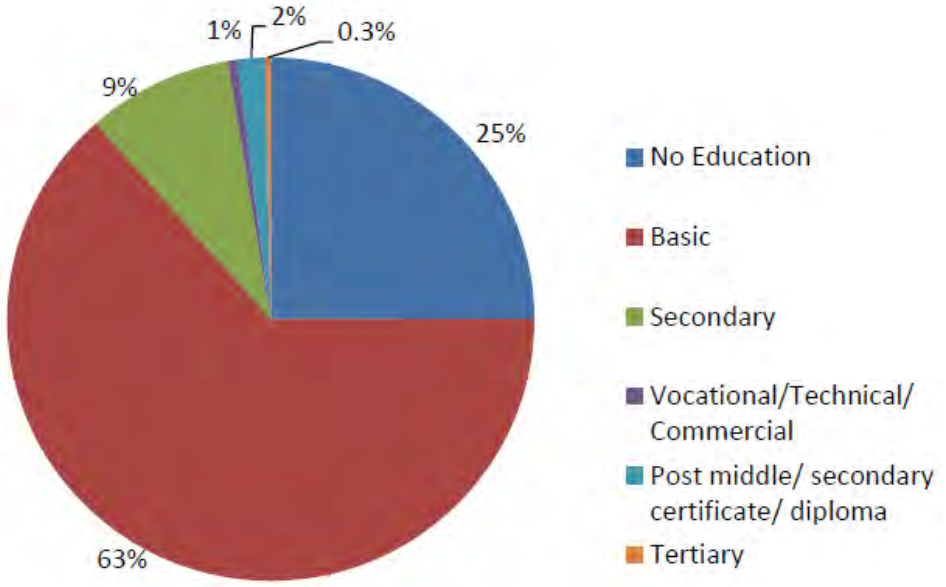

Figure 1: Level of education in the Amansie West District
Source: Ghana Statistical Service, 2010 Population and Housing Census

Figure 1 shows that in the district 25.0 percent of the population has no education, 63.0 percent have basic education and just 0.3 percent have tertiary education. It can be deduced that the majority of the parents in the district are middle school leaving certificate and basic education certificate holders. The issue at hand is that parents in the district do not value education as a change agent and want their wards to live the same life as they are living. Pupils from such homes are not motivated to learn since they see nothing better in taking their mathematics learning seriously. They see going to school as a norm and every child is entitled to an education but not quality education.

The financial background of learners is a key factor in their educational development. In Ghana, public basic and senior high school education is free due to the fact that learners do not pay for tuition and other fees. These fees are being paid by the Government of Ghana in the form of capitation grant in order to make education accessible to all children of school going age. The fact is, though there is no payment of fees by parents, the supply of logistics to aid children learning of mathematics is not available. Either, textbooks are not adequately supplied by the government or parents refuse to buy them. Also, relevant materials needed by these children are not being purchased for them by parents thus hindering mathematics learning. All these may be due to the fact that parents in the district are financially handicapped. The Education Act 778 states that when a parent cannot genuinely afford to educate the child, the district assembly may provide the support necessary for the education of the child. The fact of the matter is that many parents cannot afford to purchase the relevant materials for the children learning of mathematics but the district assemblies who are to support have also ignored their responsibility.

Socio-economic activities of parents also influence pupils' performance in the learning of mathematics. The works that parents do affect pupils learning in one way or the other. Parents who have busy schedules at work have little time for their kids at home. Much of their time is spent at work and they develop less interest in their wards' mathematics learning. Some parents who sell at the market also engage pupils in their businesses thereby denying these pupils the opportunity to learn in the house. Some parents in Amansie West District do engage their children to sell by the roadside till midnight. These children are therefore given fewer opportunities to learn what they were taught in school.

Pupils' home facilities and household chores affect their performance in the learning of mathematics in the Amansie West District. Home facilities include physical gadgets that surround the child in the home. These gadgets include TV, computer games, outdoor games like a draft, oware, ludo, etc. When kids are exposed to these gadgets, they tend to divert their attention from learning at home to these gadgets. Also, household chores pupils perform in the house can influence their mathematics learning in school. Some homes can load pupils with chores denying them from revising what was taught in school that day, while others plan pupils' time for the duties they perform in their various homes.

The academic achievement of students may not only depend on the quality of schools and the teachers, rather the extent of home-based factors has a vital role to play in the academic achievement of their students. The focus of this study is to examine home-based factors influence on mathematics achievement in the Amansie West District of Ghana.

1.2 Statement of the Problem

Societies all over the world strive to achieve quality education for their citizenry. In order to achieve this great course, so many factors must be considered. Among them is the home background of the child. The home has a significant role to play on the overall mathematical development of the child and his/her educational upbringing in particular.

For many years in Ghana, examinations have been accepted as an important aspect of assessment of the educational system. Examinations have always been used as the main basis for judging pupils' ability and also as a means of selection for educational advancement to senior high schools and tertiary institutions. Also, a pass in mathematics is a requirement for further studies in Ghana. Teachers in the country do not take it easy any time results of external examinations are released. They are blamed for pupils' poor performance in mathematics. Most opinion leaders blame teachers on their pedagogical skills, attitude towards work but forget that these pupils hail from homes. The academic performance of pupils is influenced by factors including the home that these opinion leaders ignore in their criticisms.

Home environments vary in many aspects such as the parents' level of education, economic status, occupational status, religious background, values, interests, parents' expectation for their children, and family size among others. Students coming from different home environments are affected differently by such variations (Ogoye, 2007). Learners' academic performance is influenced by factors such as lack of facilities in the school, lack of teachers, indiscipline, low intelligence, anxiety, and learner's motivation to achieve among others (Muola, 2010). These factors have tended to be more school-focused rather than home-based factors. While learners are exposed to similar learning environment within the school, they come from homes with different social and economic characteristics.

The poor performance of pupils in mathematics can be traced to how pupils learned mathematics in their lower classes. At that level, many parents do not attach seriousness to the academics of their wards. They do not supply them with relevant learning materials, do not supervise them to learn, they do not assist them in their learning and finally leave them to play about in their various homes forgetting that learning is consolidated at each level of education. And that what is learnt in class one is being built upon in the higher classes.

Parental supervisory roles in the homes are factors to be considered in this study. Parents who supervise their wards at home well in all activities encourage them to learn. Those who leave their children unconcerned and do not supervise them to learn hence their poor performance in the learning of mathematics.

Another factor to be considered in this study is parental socio economic activity and its influence on pupils' performance in mathematics. Parents from low socio economic activity fail to provide their children with basic requirements for schools including books, pens or pencils, proper nutrition and supportive environment for learning.

However, other studies have also shown that there are children from low socio-economic backgrounds who perform very well academically. There is, therefore, the need to establish the extent to which home influences of pupils impact on their performance, especially in mathematics. A situation where some pupils do well academically irrespective of the low socio-economic background of their parents; others do not do well despite the high socio-economic background of their parents. Several questions arise. Does a pupil's parent socio-economic background of their parents impact positively or negatively on his performance in mathematics?

The trend of blame game when it comes to the cause of pupils' poor performance in mathematics is that parents have been accusing teachers of their lackadaisical approach to teaching mathematics while teachers counter accuse parents of their abysmal performance of pupils in mathematics. This accusation by teachers does not seem to indicate what exactly parents do that does not inure to the success of pupils mathematics learning. Some teachers claim parents' financial background is what accounts for pupils' performance in mathematics, others claim that parents' educational background is the main contributor to pupils' poor performance in mathematics, yet others believe that poor parental supervision is the cause of this phenomena. Also, other teachers think that pupils' sleeping environment is a factor for poor performance in mathematics. Still, others think it is the combination of all these factors that lead to poor performance in mathematics.

A situation where some see the cause as financial background, while others think the cause is educational background, yet others attribute the problem to other causes, many questions arise. Is it the educational, financial, supervisory responsibilities or sleeping environment? Answers to this and other questions are not known. The study, therefore, seeks to explore the impact home differences have on pupils' mathematics learning. In other words, the study seeks to establish the extent to which home differences can be said to be a determinant of poor performance of pupils' mathematics learning.

1.3 Purpose of the Study

The purpose of this study is to explore the home differences of basic school pupils and their academic achievement in mathematics in the Amansie West District of Ghana.

1.4 Objectives of the Study

The objectives of the study are to:

1. find out parents supervisory practices and their effects on pupils' performance in mathematics performance in Amansie West District of Ghana.
2. assess the influence of parents' financial status on pupils' performance in mathematics in Amansie West District of Ghana.
3. determine the influence of parents' academic status on pupils' mathematics performance in the Amansie West District.
4. to determine the influence of household chores and home environment on pupils' performance in mathematics in the Amansie West District of Ghana.

1.5 Research Questions

The following research questions were used to guide the study:

1. How do parental supervisory roles affect Basic School pupils' performance in mathematics in the Amansie West District?
2. How does parents' financial status affect Basic School pupils' mathematics performance in the Amansie West District?
3. How does parents' academic status affect Basic School pupils' mathematics performance in Amansie West District of Ghana?
4. How does household chores and home environment affect Basic School pupils' mathematics performance in Amansie West District of Ghana?

1.6 Significance of the study

The findings of this study will be significant to a number of relevant stakeholders. They include the parents, pupils and the government of Ghana.

1. The government, through the Ministry of Education, will use the results of the study to formulate and implement a policy that will factor in the effect of the home environment of pupils' academic performance.
2. Parents will use the findings of the study to improve their relationship with their children hence providing an improved environment for the benefit of the pupils.
3. Pupils will gain from the study findings in that they will understand and appreciate the role parents play in contributing to their studies and good academic performance.
4. This findings of the study will enable parents to be active participants in the education of their Children since it will enable them to understand their roles.
5. The findings of the study will be beneficial to teachers by helping them to collaborate more with parents in assisting the learners to improve their academic performance.
6. The findings of the study would be important to school administrators in guiding them on school policies that regard parental participation in children's academic supervision, the findings of the study may enable them to create an opportunity for parents to help them in molding their learners wholly both in school and during school holidays.
7. The findings of the study will enable the National Council for Curriculum Assessment in putting in more emphasis on schools to ensure parents are actively participating in the education of their children.
8. Finally, the findings of the study will provide a scholarly contribution with information in regard to home environments role in the education of children.

1.7 Delimitation

Due to proximity of sampled schools and accessibility, Amansie West District was selected for this study. This is due to the fact that some pupils do perform poorly in mathematics as a subject in the district hence getting information for the study was not difficult. Also, the researcher is familiar with the environment, hence access to certain information on the topic from stakeholders will not be difficult.

1.8 Organisation of the Study

The study is organised into five chapters. Chapter One contains the background to the study, statement of the problem, research questions, the objectives of the study, the significance of the study, delimitation and organisation of the study. Chapter Two is about relevant literature related to the study, and the conceptual framework for the study.

Chapter Three describes the study design, population, sampling procedure, sample size, the research instrument used, data and sources, data processing and analysis, the ethical issues arising from the research and limitations. Chapter Four describes data analysis, and presentation and discussion of results while Chapter Five provides the summary, conclusions, limitations, recommendations of the study and suggestions for further studies.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Overview

This chapter is to be treated under the following subheadings: Theoretical review, Parental supervisory roles affecting pupils performance in mathematics, Parental educational status affecting pupils performance in mathematics, Parental socio-economic status affecting pupils performance in mathematics, The impact of home environment and household chores on pupils performance, Empirical framework and Conceptual framework.

2.1 Theoretical Review

The theoretical underpinning of this study is on Epstein's Six Types of Parent Involvement and Urie Bronfenbrenner's ecological systems theory.

2.1.1 Epstein's Six Types of Parent Involvement

Joyce Epstein of Johns Hopkins University developed a framework for defining six different types of parent involvement in pupils education. This framework assists educators in developing school and family partnership programmes. There are many reasons for developing the school, family, and community partnerships, (Epstein, 2002). The main reason for creating such partnerships is to help all youngsters succeed in school and in later life. Epstein's framework defines the six types of involvement and lists sample practices or activities to describe the parental involvement more fully. Her work also describes the challenges inherent in fostering each type of parent involvement as well as the expected results of implementing them for students, parents and teachers.

Epstein's Six Types of Parental Involvement Educators agree that parental involvement is essential to students' academic growth; however, definitions of parental involvement vary. A traditional definition of parental involvement includes participating in activities at school and at home, such as volunteering at school; communicating with teachers; assisting with homework; and attending open houses, back-to-school nights, and parent-teacher conferences (Bower & Griffin, 2011; Epstein et al., 2009; Hill & Taylor, 2004). Lopez, Scribner, and Mahitivanichcha (2001) defined parental involvement as "supporting student academic achievement or participating in school-initiated functions." Epstein et al.'s (2009) framework consist of six types of parental involvement which are; Parenting (Type 1), Communicating (Type 2), Parental participation (Type 3), Learning at Home (Type 4), Decision-Making (Type 5) and Collaborating with the Community (Type 6)

The basic obligation of parents (Type 1) refers to a family's responsibility of ensuring the child's health and safety (e.g., parenting, child rearing, continual supervision, discipline, and guidance at each age level) and to providing positive home conditions that support learning and behavior. The basic obligation of schools (Type 2) refers to communication with the school about academic progress (e.g., memos, notices, report cards, conferences).

The basic obligation of schools (Type 3) pertains to parental participation in the school setting (e.g., events, workshops, or programs for their own educational growth). The basic obligation of schools (Type 4) applies to communication with parents initiating, monitoring, and assisting in their children's homework or learning activities.

The basic obligation of schools (Type 5) refers to parents accepting decision-making roles in committees that monitor school improvement (e.g., Parent Teacher Association [PTA], advisory councils, or other committees or groups at school). The

basic obligation of schools (Type 6) involves collaborating with the community, that pertains to integrating various community agencies and resources that support school programmes (e.g., Title 1, after-school programs, parent institute committee) (Epstein, Coates, Salinas, Sanders, & Simon, 1997).

The rationale for using this theory implies that parents must understand and have confidence in parenting, child and adolescent development, and changes in home conditions for learning as children proceed through school. Parents must have a feeling of support from school and other parents. Parents must understand school programs and policies. Parents must monitor and awareness of the child's progress. Responding effectively to students' problems. Keeping in touch with teachers and ease of communication with school and teachers.

Parents must know how to support, encourage, and help a student at home each year. Parents must discuss school, classwork and homework with pupils and other relatives. Parents must understand the instructional program each year and of what the child is learning in each subject. Parents must appreciate teaching skills and be aware that the child is a learner.

Also, the home must assist learners in their learning processes. It should not be assumed that learning takes place only in the school but rather the home. The home must generate interest in their children's learning and must support with the relevant materials and assisting them to learn at home.

2.1.2 Urie Bronfenbrenner's ecological systems theory.

This study adopted Urie Bronfenbrenner's ecological systems theory. He developed the ecological systems theory in an attempt to define and understand human development within the context of the system of relationships that form the person's environment. According to Bronfenbrenner's initial theory (1989), the environment is

comprised of four layers of systems which interact in complex ways and can both affect and be affected by the person's development. These are Microsystems, Mesosystem, Exosystems and Macrosystem. He later added a fifth dimension that comprises an element of time (Bronfenbrenner, 1995) which he called Chronosystem. This theory can be extended to model the development of an organization as well and is particularly appropriate for describing the complex systems of a school district or even of an individual school. The theory is also applicable in this study due to the interpersonal relationship that must exist between pupils and their parents in order to achieve better in their academics and especially mathematics learning. Each of the four system layers is described as follows:

Microsystem: The Microsystem is defined as the pattern of activities, roles, and interpersonal relationships experienced by a developing person in a particular setting with particular physical and material features and containing other persons with distinctive characteristics of temperament, personality, and systems of belief (Bronfenbrenner, 1995). In other words, this layer forms a set of structures with which a person has direct contact, and the influences between the developing person and these structures are bidirectional. The person influences and is influenced by the Microsystem. If this theory is extended from human development to organizational development, and an individual school is the unit of interest, the Microsystem of the school would include students, parents and family members, administration, teachers, and the surrounding community (Johnson, 2008).

Mesosystem: The mesosystem, simply stated, comprises the linkages between Microsystems (Bronfenbrenner, 1995). Just as the direction of influence between the school and each structure within the Microsystems is bi-directional, the mesosystem

involves bi-directional influences between these various structures. An example of the mesosystem of an individual school can be seen in the interactions and dynamics between two of its microsystems, students and parents. Parental expectations regarding the academic and extra-curricular success of their children can often create a dynamic that directly and indirectly impacts the atmosphere and climate of the school. Unreasonably high expectations and a low tolerance for failure can create a dynamic between parent and child that is characterized by tension and fear. This dynamic impacts the school in various direct and indirect ways, including student behaviour in the classroom resulting from such expectations, pressures to ensure their child's success placed on school personnel by the parent, or an attempt by school personnel to shield students from such parental pressures by restricting the amount of information that is communicated regarding student achievement (Johnson, 2008).

Exosystem: This layer defines the larger social system in which the child does not function directly. The structures in this layer impact the child's development by interacting with some structure in her microsystem (Berk, 2000). Parent workplace schedules or community-based family resources are examples. The child may not be directly involved at this level, but he does feel the positive or negative force involved with the interaction with his own system. The exosystem represents the larger social system, and encompasses events, contingencies, decisions, and policies over which the developing person has no influence. The exosystem thus exerts a unidirectional influence that directly or indirectly impacts the developing person. The exosystem of an individual school might be comprised of such structures as, for example, state regulations, local economics, district mandates, and local disasters (Johnson, 2008).

Macrosystem: The macrosystem can be thought of as the "social blueprint" of a given culture, subculture, or broad social context and consists of the overarching pattern of values, belief systems, lifestyles, opportunities, customs, and resources embedded therein (Bronfenbrenner, 1995). This system is generally considered to exert a unidirectional influence upon not only the person but the micro-, meso-, and exosystems as well. The macrosystem of an individual school is embodied not only in the cultural, political, social, and economic climate of the local community but that of the nation as a whole (Johnson, 2008).

Chronosystem: Although not one of the four system layers per se, the chronosystem represents a time-based dimension that influences the operation of all levels of the ecological systems. The chronosystem can refer to both short- and long-term time dimensions of the individual over the course of a lifespan, as well as the socio-historical time dimension of the macrosystem in which the individual lives. The chronosystem of an individual school, therefore, may be represented by both the day-to-day and year-to-year developmental changes that occur in its student body, teaching staff, curricular choices, etc., as well as the overall number of years in operation (i.e., a newer school faces challenges and opportunities that differ from those of a school that has been in operation for a length of time).

In an attempt to understand home differences and pupils academic performance in mathematics in the Amansie West District, one has to take into account the individual children as well as the context within which it occurs. The relevance of this theory to the study is that it impinges on the researcher to view the pupil's performance in mathematics is influenced by wider social systems. The theory opined that school children are directly present within some of these social systems, such as their household and immediate neighbourhood, and there are others in which they are not

directly represented, but which impinge on their development including their siblings, social networks and their parents or friendship, leisure and the workplace relationships (Bronfenbrenner, 1986). In addition, the theory makes us aware of the influences of wider social systems including the cultures, political systems, social institutions, and values that exist in the society and argues that they should be taken into account in children's educational upbringing.

By inference, the influences and experiences that result from the interactions between different homes play a key role in determining the extent to which children perform in school. From the constructs of the ecological theory, the performance of the pupils in mathematics is inextricably linked with the home differences in Amansie West District. The ecological theory is, therefore, the most appropriate theory for studying the home differences and pupils' academic performance in mathematics in the Amansie West District. It is appropriate in that it directs attention to the whole and not to any one part, system, or aspect of the children situation. Consequently, it is within this framework that the present study seeks to investigate the home differences and pupils' academic performance in mathematics. Since learning outcomes depend on the way it is presented to the learner by his or her teacher, the way the learner interacts with the learning experiences presented to him and the environment within which the learning takes place, it is therefore expected that these entities would be affected by factors associated with the home and community conditions.

2.2 Parental Supervisory Roles Affecting Pupils' Performance in Mathematics

The relationship between the child and the parent is a crucial home factor that influences child learning and achievement. Parents who are responsive to their children needs can influence the performance of their children in schools. Parents' educational aspirations exert a significant influence on students' achievement. Therefore, all other

things being equal, parents who have an aspiration that challenge, inspire and motivate their children should correlate with their children performance in school. If a child comes from a home where parents are not responsive to their physical and emotional needs such students become depressed and if the situation is not handled well it will go a long way to affect their performance. Students belong to homes of different socioeconomic backgrounds and this affects them in diverse ways (Paul, 2012; Loop 2012).

The school, according to Paul (2012), is no doubt important in a student's achievement. Recent researches, however, indicate that parents are even more important in terms of students' performance in schools. According to Paul, recent researches have shown that parental involvement in checking the homework of their children, regular attendance of school meeting, discussing school activities with their children has a more powerful influence on students' academic performance than anything about the school the student attends. Students of varied family backgrounds attend educational institutions in Ghana like other countries. These differences range from parents' level of education, interests in education, material support to their children among others. It is most probable that educated parents will be more inclined to give good education by providing the needs of their children. It must however be added that, there are some parents who are well educated yet pay very low attention to the education of their own children. If this scenario persists, students' of parents who pay little attention to their children education will perform poorly in schools. It must also be added that, there are situations where illiterate parents pay more attention to their children education even though they are illiterate themselves. To such illiterate parents, they do not want their children to suffer the deprivations they had to endure. It may therefore be true that parents' level of education is a strong determinant of students'

performance in school. A home that encourages learning is perhaps the most accurate predictor of success at school.

High-achieving pupils are set with higher expectations and standards than low-achieving pupils. Parent-supported students yield better performance in school. If there is a lack of parental participation, the educational development and success of the performance of the learners is affected. The students will be struggling if there is no support from parents. (Wanke, 2008). According to Angion (2009), parental involvement connects to the child's cognition, verbal communication, and socio-emotional intensification and increases children's attainment. Georgiou (2010) found out that child's achievement in school is related to the attributing behavior of parents. Desforges and Abouchaar (2003) stated that there would be a high level of achievement if there is parental involvement.

Some researchers have noted that parent-initiated involvement in school activities has significant impact on academic performance (e.g., Becker & Epstein, 1982; Ingram, Wolf, & Lieberman, 2007; Rumberger & Palardy, 2005; Stevenson & Baker, 1987). Evidently, this implies that academic performance goes beyond cognitive skills required for a successful learning achievement (Meyer, 1980).

Parents should monitor and supervise their adolescents' schedules, peer associations, activities, and physical where about. Effective monitoring requires that parents be involved in the lives of adolescents and maintain clear expectations about appropriate activities, acceptable peers, and places where they can and cannot go (Barber, Olson & Shagle 1994). Adolescents whose parents fail to monitor their activities are likely to be involved in antisocial behaviour, delinquency, drug use and early sexuality (Ambert, 1997; Barber, Oslen, & Shagle 1994). Parental punitiveness refers to the use of force to influence children's behavior and qualities, either through

spanking, slapping or other forms of physical force or through nagging, name-calling or yelling (Turner & Finkelhor 1996).

Parental monitoring or supervision is a multidimensional construct that ranges from selecting schools for children to reading with children, attending parent-teacher's conferences, and supervision of homework. It is consistently associated with higher grades, fewer absences, and higher school graduation rates (Davis, 2000). Clark noted that monitoring children's afterschool activities such as homework, sports, and peer interactions are important in achieving educational goals. Therefore, parents who monitor their children's behavior after school are more likely to have high achieving children than parents who do not monitor their children's after-school activities (Clark, 1993). Monitoring is an important determinant of academic performance among adolescents (Epstein & Sheldon, 2002; Israel et al., 2001; Sheldon & Epstein, 2005). Monitoring children's educational life is a crucial component of influencing them toward specific choices in life. It is exemplified in participation of parents in different areas in a child's life and specifically their academic performance. Sometimes the socioeconomic status (SES) and educational status of a parent may determine the level of monitoring they provide and the subsequent impact on child progress (Featherman & Hauser, 1976; Marjoribanks, 1979).

Parental monitoring, a function of leadership, influences two social contexts of home and school as relationship with teachers is enhanced and accountability for a common goal is achieved at home. However, parental monitoring is closely linked to parental involvement. For instance, LeFevre and Shaw (2012) posited the activities of parental monitoring described so far as essential part of formal and informal parental involvement. They describe formal parental involvement to include actions such as being physically present in school and making inquiries about child's progress and what

is happening at school. Informal parental involvement takes place at home and includes psychosocial and academic support. The aspiration of parents serves as a major motivation in parental leadership. Aspiration, which is a mental image of the future, invokes a desire in parents for their children's success in academic performance. The operation of explicit aspiration in parental supervisory role underscores goals, objectives, and values that children imbibe. Researchers have identified how aspiration influences children's school attendance and learning goals (Astone & McLanahan, 1991; Crandall, Dewey, Katkovsky, & Preston, 1964; Keeves, 1972; Pugh, 1976).

Evidently, parental support serves as a major motivation in parental supervisory role and undergirds parental monitoring, involvement, and aspiration. It involves emotional support that parents provide for their children over a period of time (Barnes & Farrell, 1992). It is a behavior that fosters self confidence in a child, developing the propensity for higher achievement. Parental support provide insights into parental monitoring, allowing children to succeed academically (Rath et al., 2008). The process of praising, encouraging, and giving physical affection as forms of parental support not only improves academic performance but also demonstrates the level of acceptance children enjoy from their parents (Barnes & Farrell, 1992; Green, 2007).

If parental supervisory role holds such promise to the influence of a child's academic performance, why is there limited multivariate investigation into the confluence effect of this engagement? The reviewed literature ascertains that each variable has certain measure of impact on a child's academic performance, and therefore, parental supervisory roles, which is the combination of these elements, presents a unique resultant effect.

Bake and Scher (2002) argued that it is the duty of parents to have critical role towards their children's academic performance. Grolnick and Slomaezek (1994)

expected that parent involvement had a large role on children's academic performance. Mwoma (2008) proposed that it is the role of the parent to ensure there is parent - child interaction. Parents should organize occurrence of cognitive tasks for children for example making a puzzle and monitoring level of difficulty that hinders academic performance. Academic socialization is influenced by the development of parents' attitude and beliefs that are helpful dealing with instruction in school. Parent's attitudes, expectancies and academic performance have causal influence on children development of attitude and behaviours (Ames & Archer, 1987).

It is the role of parents to appraise children perception and hence influence their academic performance. Fan and Chen (2001) state that parents have to develop a positive sense of efficiency for helping their children succeed in academic performance. It is the parent role to influence children's developmental and educational outcomes through modeling, reinforcement and instruction. Parental role of involvement influence children's academic performance Epstein (2001). Hoover-Deupsey (1992) argues that parental sense of efficacy is important as a parent believes that he or she has the necessary skill or knowledge for assisting his child with school related matters. Bandura (1989) children are able to perceive self-efficacy through parental role as their mental ability will be stable which influences performance. Bandura (1989) suggests that self-efficacy are drawn from direct experience, vicarious experiences, verbal persuasion and emotional arousal which contribute to the child's development of a sense of efficacy for doing well in school and hence influence academic performance. Lockheed (1991) identified the impact of parent role of involvement on children's academic performance as parents who assisted their children on their assignment posted an encouragement in their children and hence improvement in academic performance.

It is the role of parents to developed parental role conceptions that include active involvement or positive sense of efficacy for helping children in their academic performance. It is the parents' role to construct a sense of efficacy for helping children succeed in school. This can be done through offering opportunities for involvement by selecting school related activities and helping children with homework (Chemagosi, 2012).

Children who received close attention from their parents tended to progress faster as a rule than those who came from homes where this attention was wanting, either through negligence or through inability to give the right kind of attention. In other words, the child who receives double instruction, from the parent and from the teacher, makes better progress than the child who receives the single instruction of the teacher. Hence a school that is so organized that the more progressive students may save a year or more is as a rule either consciously or unconsciously recognizing parental supervision (Brooks, 1918).

Bernett-Gates, Hodapp and Henrich (2002) assert that it is the role of parents to be initiators to their children. They are supposed to develop physically, cognitively and emotionally. Stevenson (1986) as cited in Chemagosi (2012) found out that there was improvement in children whose parents monitor closely their children's school progress and initiated contact with the school in response to their academic difficulties. Mwoma (2008) identified that regardless of ethnically and social class high performance in children academic was associated by intense educational initiative of socialization including close supervision of school progress and homework by parents.

Epstein (1998) assesses parental time of involvement on pre-school children's academic performance, the more time parents worked with their children on their homework, the more influence it had on their children academic performance. Parents

who motivated their children many times and made follow up activities in school work performed better.

UNICEF (2009) explain that millions of children in sub-Saharan Africa and elsewhere in the developing world are now going to school but leaving without basic knowledge and skills they need. Parent initiative can make a difference to help children in their academic performance. Parents interact their power towards their children academic performance and hence they perform well. Parents who express their high esteem for education and to support their children's in academic areas do initiate a positive perspective in their children which has been associated with acquired traits from home (Chemagosi, 2012).

A large number of children who are having difficulties in their academic progress are not receiving adequate help at home (Chemagosi, 2012). It appears that fathers are not willing or are unavailable to devote much time to their children to learn mathematics. It is the duty of parents to spare much of their time to shoulder more responsibility towards their children's academic performance, even if it just means to supervise homework (Chemagosi, 2012).

Muola (2010) summarize the activities that parents need to spare their children from home related activities that encourage children's academic performance. These activities include parents working with children on their mathematics home works, Parents talking to children about school-related topics in mathematics and parents sparing time to take their children on field trips. Epstein (1998) assesses the parental time of involvement on preschool children's academic performance, the more time parents worked with their children on their mathematics homework. The more influence it had on their children academic performance in mathematics. Parents who motivated

their children many times and made follow up activities in school work performed better in mathematics.

Mensch and Lloyd (2010) proposed that in order to achieve better results in schools then; there is need to create a home environment that encourages learning, express high (but not unrealistic) expectations for the children's achievement and future careers and finally the need for parents to become involved in their children's education at school and in the community. If two of these three criteria are accomplished, children of low income families may achieve at or above the levels expected of middle class children in mathematics.

2.3 Parental level of education as a contributor to pupils' performance in mathematics.

Parents are the first teachers of their children. In light of this, parental education influences a student's academic performance. Parents' level of education refers to scholastic attainment of mother and father in Schools/Colleges, which could play an important role in determining a child's intellectual performance. It is believed that parents' educational level may be the main source of influence that determines a child's academic achievement (Plomin, Defies & McClean, 1990). Ahmad and Najeemah (2013) suggested that children from families where parents have less education tend to perform systematically worse in school than pupils whose parents have more education. To him, educated parents provide intellectual, economical, psychological and emotional support to their children who in turn make them to be more comfortable and adjusted to their learning development, and this result in high academic performance.

Grisemer, Kirby and Williamson (1994) and Okantey (2008) reported that parents' level of education is a good predictor of academic performance of students. Studies on academic performance consistently have shown that parents' level of

education is important in predicting children's academic performance (Haveman & Wolfe, 1995). Seefeldt, Denton, Galper and Younoszai (1999) reported that parents' level of education has been regarded as a good predictor of children's academic performance. Padberg (1991) also reported that parents' educational background has a positive effect on students' academic performance. Fontaine (1996) also indicated that the educational attainment of parents is a good predictor of students' academic performance.

Studies have shown that parents with higher educational level could motivate the intellectual potentials within children that may lead to performing better in school (Owoeye, 2008). Studies by Benbow and Arymant (1995) and Haveman and Wolfe (1995) have indicated that parents with higher educational level could motivate the intellectual potential within their children that may lead them to perform better in school and in return further their education. For example, parents' educational level may foster higher parents' involvement in adolescents' school achievement, which in turn may influence high school completion (Astone & Mclanaham, 1991 & Patrikakou, 1997). Educated parents were also found to be able to make constructive decisions, such as how much time to spend with their children, give their income and may decide on how much to give to their children's education (Haveman & Wolfe 1995).

According to Sentamu (2003), the educational attainment of parents determines the kind of schools to which their children go to. Such schools are near somehow the same to the ones their parents attended. This tends to lay a foundation for better performance of their children while at school. Considine and Zappala (2002) in their study in Australia on the influence of education disadvantages in the academic performance of a school found that families where parents are educated foster a higher

level of achievement in their children because of providing psychological support for their children.

According to Davis-Kean (2005), parental educational level is an important predictor of children's educational and behavioral outcomes. In fact, research suggests that parental education is indeed an important and significant unique predictor of child achievement. According to Young and Smith (1997), children of well-educated parents perform, on average, perform better on academic assessment tests than children of high school-educated parents. They add that the educational attainment of the parents' is independent of income because the level of education may influence the value that parents place on education, which could, in turn, influence their children's educational goals. Thompson et al (1988) says mother's level of education influences adolescent's educational outcome.

Another study by Ahmad et al. (2013) stated that a parent with an educational background would be in good position to be second teachers to their child. And even to guide and counsel the child on the best way to perform well in education. And provide necessary materials needed by the child. This motive is also supported by Musgrave, (2000), that those children from educated parents always like to follow the footsteps of their families and by this, work actively in their studies.

According to Muyalo (2017), education level of a parent is a significant predictor of a child's educational achievements and behavioral outcome. Parents who are educated raise children to have healthy self-perceptions when it comes to their academic abilities, engage them in intellectual activities that help them develop a healthy attitude about learning and generally have children with fewer behavioral problems that may hinder their learning experiences. According to Mattison et al., (2014) parents with higher education levels have stronger confidence in their child's

academic abilities, and they also have higher expectations of their child. They expect that their child will get good grades, behave well in school and attend college. These high expectations motivate their child to do well. The confidence they have in their child enable the child to builds his own confidence in his academic abilities hence succeed in life. The association between parents' and their children's' educational attainments has been one of the measures featured in the study of intergenerational mobility. It has either been the focus itself or has been part of the exploration of the reasons for earnings, income or social class persistence; the opposite of mobility (Smeeding, J. ntti & Erikson, 2010). Parental education is of course just one aspect of family background that influences children's subsequent achievements as adults, but an important one. For instance, parents' educational attainments have a large impact on their earnings; they may alter the 'productivity' of their time investments in children, such as reading to the child; and they may affect children's aspirations.

According to Ermisch et al., (2012), the extent of each parent's education measures the effect of their education net of the effects of their endowments, which are likely to be correlated with their educational attainments. In the context of economic models of the family, the parental education coefficients should reflect three separate effects of a parent's education on the education of their child.

First, there is an income effect, which is positive because higher education increases the capacity to earn income in the market and more income is spent on everything that parent's value. Second, there is a substitution or time allocation effect, which depends on the impact of a parent's education on the cost of human capital investment in their children. How costs vary with a parent's education depends on how much it increases the parent's earning capacity, how much of the parent's time is spent on child-education-enhancing activities and how much a parent's education increases

the productivity of their time in such activities. The marginal cost of investment could, for example, decrease with higher parent's education because it enhances productivity sufficiently relative to their earning capacity ('market productivity'); or a there may be no effect on the marginal cost of a parent's education because that parent contributes little time to human capital investment in children. Third, there may be a bargaining effect; for example, if mothers value children's education more than fathers and higher education increases her bargaining power, higher mother's education relative to the father's would increase children's education through this channel.

In addition, analysis of parents' time use (Guryan et al., 2008) suggests that time spent with children is valued more by better educated parents. The coefficients associated with the parents' earnings endowments also reflect income, time allocation and bargaining effects, but in addition, they reflect the association between parents' and their children's endowments. A parent's level of education influences parents' knowledge, beliefs, values, and goals about childrearing, so that a variety of parental behaviors are indirectly related to children's school performance. For example, higher levels of education may enhance parents' facility at becoming involved in their children's education, and also enable parents to acquire and model social skills and problem-solving strategies conducive to children's school success. Thus, students whose parents have higher levels of education may have enhanced regard for learning, more positive ability beliefs, a stronger work orientation, and they may use more effective learning strategies than children of parents with lower levels of education.

A research conducted by Larzelere et al., (2013) as cited in Murithi (2015) suggests that parents with higher levels of education are also more likely to believe strongly in their abilities to help their children learn. It further established that a parent's self-efficacy, children's academic abilities, level of parent education and program

participation are significantly related to parental self-efficacy. In turn, parental self-efficacy beliefs significantly predict children's academic abilities. A father's education has a much larger effect than that of the mother, and the father's education has a larger effect on sons than daughters. With a sample of brother fathers, the effect of mother's education is larger than that of the father's education, and the mother's effect is even larger if the offspring is a daughter. It appears then that the differential effect of mother's education always favors daughters, while the gender interaction with father's education is less clear in direction and it is often statistically insignificant, even with our large samples (Cantu, 2013). If we discount the possibility that mothers act to favor girls over boys in their child investments, the larger effect of their education on daughters suggests that a mechanism behind the effect may be through the effect of the mothers on their daughters' aspirations and motivation ('role model effect').

Ezewu (1988) found out that educated parents provide adequate learning materials for their children, which stimulate them to learn and perform better in all subjects. These parents are concerned over their children's education/performance, which sometimes makes them coach their children themselves or appoint part-time teachers for them. They send their children to the best nursery and primary schools which serves as sure gateways to secondary and university education which in turn leads to higher education qualification to occupy higher positions in societies. Owen (1999) in a study exploring beliefs about academic achievement studied the relationship between parents' educational attainment and found that the educational attainment of parents has a relationship with the educational achievement of their children.

Kundu and Tutoo (2000) found that home background has a significant influence on the achievement of children at school because educated parents tend to

offer more psychological, social and financial support to their children, thus giving them the opportunity to excel in their studies.

The educational status of parents influences pupils learning of mathematics in the house. As indicated in the literature above, educated parents tend to have time for their wards learning of mathematics in the house by assisting them to learn in the house, explaining to them difficult concepts in a language in which they could understand. This action, therefore, supplements what teachers do in the classroom. They also purchase the relevant mathematical materials for their ward to use both in school and at home. These support in terms of textbooks, mathematical instruments, assisting them to learn the subject at home and explaining mathematical concepts with basic language tends to improve pupils learning of mathematics in the house. Uneducated parents can delegate elder siblings or relatives to do this on their behalf.

2.4 Impact of Parental Financial Status on Pupils' Academic Performance

Ogoye (2007) notes that socio-economic status is a critical issue in many African communities where illiteracy and poverty levels are high, thus limiting parental involvement in homework. In some cases, learning and reference materials have to be shared among pupils, and not all parents are able to buy for their children personal subject-specific text copies. More important is the fact that some parents expect the children to help them after school, during the time the children are expected to undertake their homework assignments. Based on the traditional gender division of labor, this is the time when the boys have to look after the animals and the girls to fetch water, firewood and help in the evening to prepare the family food before they eventually clear the table and wash the dishes. This is against the children's desires to study in the evening and in a quiet place. High poverty levels lead to crowded homes

where distractions and little opportunity for concentration are the norms. The net effect of distractions and lack of concentration is that homework is not guided, poorly done, incomplete or never done at all, and therefore precipitates conflicts at school and at home.

"Parents of different occupation classes often have different styles of child rearing, different ways of disciplining their children and different ways of reacting to their children. These differences do not express themselves consistently as expected in the case of every family; rather they influence the average tendencies of families for different occupational classes" (Rothestein, 2004).

In line with the above assertion, Eze (2002) had also argued that socio–economic status of parents do not only affect the academic performance but also makes it possible for children from low background to compete well their counterparts from high socioeconomic background under the same academic environment. Moreover, Smith (2001) asserted that significant predictor of intellectual performance at the age of 8 years included parental socioeconomic status (SES). In the same vein, other researchers have posited that parental SES could affect school children as to bring about flexibility to adjustment to the different school schedules (Guerin, Reinberg, Testu, Boulenguiez, Mechkouri, and Touitou, 2001). Oni (2007) and Omoegun (2007) had averred that there is a significant difference between the rates of deviant behaviour among students from high and low socio–economic statuses.

The health status of the children which could also be traceable to parental socio – economic background can be another factor that can affect the academic performance of the students. Adewale (2002) reported that in a rural community where nutritional status is relatively low and health problems are prevalent, children academic performance is greatly hindered. This assertion is again hinged on the nature of parental

socio–economic background. Moreover, Eze (2002) had expressed that when a child gets proper nutrition, health care, stimulation during pre–school years, his ability to interact will take optimal advantage of the full complement of resources offered by any formal learning environment.

Parental socioeconomic status forms a huge part of a child's education. Children raised in poverty rarely choose to behave differently, but they are faced daily with overwhelming challenges that affluent children never have to confront, and their brains have adapted to suboptimal conditions in ways that undermine good school performance. Such children are likely to have emotional and social challenges, acute and chronic stressors, cognitive lags as well as health and safety issues. Combined, these factors present an extraordinary challenge to academic and social success. This reality does not mean that success in school or life is impossible. On the contrary, a better understanding of these challenges points to actions educators can take to help their less-advantaged students succeed (Koki et al, 2008). The social-economic orientation range from parental incomes, type of job done, social class, work culture and lifestyle.

The type of job that a parent does affects the levels of income in the family. Such incomes play a major role in providing for the children's educational requirements. Lutz (2008) pointed out that where children are unable to take a balanced meal or have no food at all, education becomes a stump. Students who have fed well have energy to study. Hungry and malnourished students do not perform well in their studies. Scientists argue that the brain requires nourishment and proper feeding. If the nutritional value of food cannot lead to brain development, poor performance becomes imminent in many occasions. The inability of a parent to give a balanced diet is one of the root causes of academic failure.

Another research conducted by Patall et al., (2012) found that the surrounding environment of children at home is a vital player in results determination for students. This environment is mainly affected by the parent's social status as well as the income in that family. Thus, a parent who is able to procure reading materials for his children and other education propellants is able to instill focused educational attention for them. In addition to this, parents income may bring adverse results to students since some activities tend to be overdone leaving very little or no time for self-study at home. Some parents, for example, are able to employ workers who can understand academic information. This becomes a challenge as some children end up getting their homework and assignments done by domestic help. Such students cannot compete favorably with the others who must struggle to perform their assignments.

Other parents are capable of buying digital equipment for their children such as smart phones, modems, laptops etcetera, making research easier and accumulation of facts and information manageable facilities such as entertainment, children playthings, leisure, home library and television may build or destroy a child's education strength.

Children raised in poverty are much less likely to have social and academic needs met than their more affluent peers are and, as a result, are subject to some grave consequences. Deficits in these areas inhibit the production of new brain cells, alter the path of maturation, and rework the healthy neural circuitry in children's brains, thereby undermining emotional and social development and predisposing them to emotional dysfunction (Hepburn et al., 2009).

In many poor households, parental education is substandard, time is short, and warm emotions are rare to find (Siu et al., 2011). Caregivers tend to be overworked, overstressed, and authoritarian with children, using the same harsh disciplinary strategies used by their own parents. They often lack warmth and sensitivity and fail to

form solid, healthy relationships with their children. A childhood spent in poverty often sets the stage for a lifetime of setbacks. Secure attachments and stable environments, so vitally important to the social and emotional development of young children, are often denied to our neediest kids. These children experience more stress due to loneliness, aggression, isolation, and deviance in their peer relationships, and they are more likely to describe feeling deprived, embarrassed, picked on, or bullied. As a result, they more often face future struggles in marital and other relationships. Some professions and lifestyles also hamper a parent from being keen on his children's academic development. Epstein (2011) noted that a soldier might have very limited time to his children compared to a teacher or a farmer. Such professions will in one way or another hinder the parent's one on one engagement with their children who study in day secondary schools. A teacher may provide enough time to children and offer the necessary guideline required to succeed.

A study conducted by Programme for International Students Assessment (PISA) (2011) established that students whose parents work in professional occupations generally outperform other students in mathematics, while students whose parents work in elementary occupations tend to underachieve compared to their peers. The strength of the relationship between parents' occupations and student performance varies considerably across countries: for example, when it comes to mathematics performance, the children of cleaners in Shanghai-China outperform the children of professionals in the United States, and the children of professionals in Germany outperform the children of professionals in Finland, on average. Finland and Japan achieve high levels of performance by ensuring that the children of parents who work in elementary occupations are given the same educational opportunities and the same encouragement as the children of professionals.

In another research, PISA (2009) further found out that in most countries and economies, children whose parents work as professionals have, on average, the best results in school. Colombia, Indonesia, Italy, Mexico, Peru and Sweden are the exceptions where in these countries; the children of managers score the highest in secondary schools. The gap in performance between the children of professionals and other students tends to be widest in mathematics and narrower in reading and comprehension.

However, while there is a strong relationship between parents' occupations and student performance, the fact that students in some education systems, regardless of what their parents do for a living, outperform children of professionals in other countries shows that it is possible to provide children of factory workers the same high-quality educational opportunities that children of lawyers and doctors enjoy (Zedeck, 2012).

According, to Crosnoe et al (2005), socio-economic factors such as education and income are key factors that are predictive of students' academic achievement. This is because family socioeconomic status background affects a child's perception of life that in turn could affect a child academic performance. The socioeconomic status could be defined as a student's individual position within a hierarchical social structure based in their parents' occupation, education, income, wealth, and place of residence. Although the school could be responsible for the experiences that make up an individual's life during school periods, parents and the individual's experiences at home play tremendous roles in building the personality of the child and making the child what he or she could be (Ajila and Olutola, 2007). The relationship between family socio-economic status and the academic performance of students is well explained in sociological studies.

Children from low financial status parents may not have access to extra learning facilities at home making it difficult for them to perform well in class. Ewijk and Sleegers (2011) noted that high socioeconomic parents greatly participate in the learning of their children while low socioeconomic families are least likely to be involved in the education of their children (Turney & Kao, 2009). This is because most of the times low socio-economic families are engaged in strenuous manual work in order to be able to provide food and shelter for their families (Ratcliff & Hunt, 2009). Carlson (2008) noted that health-related factors such as hunger, physical and emotional abuse, and chronic illness can lead to poor school performance.

Considering the above statements, children from such homes with low financial status lack basic logistics and do not get the best of support to learn mathematics. Some people may hail from homes with affluent financial status but will still perform poorly in school.

2.5 Impact of the House Structure and Household Chores on Pupils' Performance in Mathematics

The growing body of literature regarding the relationship between child labour and children's education has demonstrated mostly a negative effect on school examination performance, although different measures of education enrollment, attendance, days absent, lateness to school), grade repetition, years of schooling attained and reading competence have been used. Thus, scholars have consistently noted a trade-off between child labour and human capital measures. The general consensus is that child labour has a detrimental effect on children's education. For instance, student's time use has been found to have significantly reduced school attendance and consequently reduces student's educational attainment (Beegle et al.

2005). An exception is a study by Buchmann (2000), who found child labour does not significantly impede school enrollment or attendance because children could combine both working and schooling, simultaneously. However, she did not rule out the possibility that child labour could hinder children's school examination performance.

Beegle et al. (2005) further observe that the home environment is rarely mentioned as a factor contributing to poor academic performance. The family is, obviously, a major socializing agent and therefore important in determining the child's motivation to achieve success in various areas. He remarks that the motive to excel in academic work as an activating force, a drive or an urge to achieve good results and recognition which, to some degree, accounts to progress in school. The term "home environment" refers to all the objects, forces and conditions in the home which influence the child physically, intellectually and emotionally. Different home environments vary in many aspects such as the parents' level of education, economic status, occupational status, religious background, attitudes, values, interests, parents' expectation for their children, and family size among others (Muola, 2010). Research on parental characteristics and how they impact on children's educational matters has been lacking in the country. This study investigated the home-based factors influencing children's academic performance.

Children from poor family settings combine schooling and other activities such as household chores, farm work, work outside homes, and family business (Moyi, 2011). He points out that most of the students who work and attend school may be at a disadvantage because this constitutes educational inequality; learners who combine schooling and work and those who do not. Studies have shown that children are engaged in domestic chores, often to the detriment of their education (Kadenyi & Kamunyu, 2006: FAWE, 2003; Ayoo, 2002). Working prevents children from attending schools,

reduces study time or leads to fatigue thereby reducing children's concentration and learning.

In Amansie West District where the study took place, most pupils engage in illegal mining activities after school hours. They use most of their time spent in the homes on mining sites. Some go there to mine on their own, sell, assist their parents in digging for gold and others take care of their younger siblings (Gyau, 2015).

Other scholars have also reported that the fact that a child is working increases the probability of failing a grade (examination or grade repetition) and even dropping out of school. Yet some other studies have corroborated the finding that child labour has adverse effects on student's reading competence (as assessed by parents) and mathematical skills (Akabayashi & Psacharopoulos, 1999). This study investigated how child labour influences academic performance of the pupils.

Parents monitor and supervise their adolescents' schedules, peer associations, activities, and physical where about. Effective monitoring requires that parents be involved in the lives of adolescents and maintain clear expectations about appropriate activities, acceptable peers, and places where they can and cannot go (Barber, Olson & Shagle 1994). Adolescents whose parents fail to monitor their activities are likely to be involved in antisocial behaviour, delinquency, drug use and early sexuality (Barber, Oslen, & Shagle 1994). Parental punitiveness refers to the use of force to influence children's behavior and qualities, either through spanking, slapping or other forms of physical force or through nagging, name-calling or yelling (Turner & Finkelhor 1996).

Majoribanks (1996) states that children from single parents households do not perform as well as children from nuclear family households. Single parents have less income and lack support which can increase stress and conflicts. They usually struggle with time management issues in order to balance many different areas; in the process,

some become less involved with their children and give less encouragement and have low expectation for their children than nuclear family households. Divorced parents negatively affect the academic achievement of their children and cause a decrease in the family's socioeconomic status and parental connections are harmed (Jeynes, 2002; Majoribanks, 1996).

Research examining predictors of home environment on students' academic achievement has focused on basic distractions in the process of acquiring knowledge and skills by students. The nature of such distractions either in the rural or urban areas may differ to some extent. Leland and Harste (2005) posited that students who lived in the urban areas have varied social statuses and different upbringing and often experience more crimes in the neighborhoods and violence on the streets than their counterparts from suburban and rural areas who relatively live in a safe and pleasant environment. Mattingly and Stransky (2010) further reported that students from rural areas who merely have similar social statuses lack basic amenities and are bedeviled with family economic problems most of whom live below the United Nation's poverty line than their counterparts from the urban areas. In spite of all these overwhelming challenges in both urban and rural areas, there are still a significant number of students who overcome the obstacles and manage to succeed in their academic pursuits (Graham, 2012).

These study findings so far indicate variations in students' achievement due to geographical location, resources and availability of technology of the residential areas. Brown (2003) asserts that the low level performing students usually come from the rural areas that experience a lack of conducive environment for learning. Although rural students typically achieve less than their counterparts from the urban areas, variations do exist between one area and the other (Graham, 2012). The gap in the variation of

students' academic achievement may depend on the existing differences in both the urban and rural areas. Brown (2003) mention that the achievement gap between urban and rural areas did exist as a result of their peculiar differences. But while some students from rural areas had above average, others are just an average (Brown, 2003). It is important to keep in mind that both urban and rural students might differ from one another on the basis of the peculiarities in their residential settings. Students can generally do well in examination scores as well as or do better than one another depending on the level of influence of their geographical and demographic factors and the educational opportunities given by the environment (Loveless, 2003; Williams, 2003).

The academic achievement levels in basic schools vary from region to region and locations. For example, urban students perform significantly better in some settings while in another setting the rural students do perform well (Slavin, 2006; Abdullahi, 2011). Such differences are linked to variances in a wide range of factors within the students' localities (Lee & McIntire, 2000). However, the spread of internet access nowadays, increased number of educated parents, the emergence of more economic opportunities and better social services might be the reasons for such disparity in students' academic achievement (Graham, 2012). These developments seem to have created academic opportunities for students. Consequently, equality in educational achievement became an issue of debate globally. This is because all countries are more or less alike in their educational policy aspirations to ensure equal opportunities for quality education to all individuals. But differences in students' geographical representations remain an educational challenge to researchers. As a result of which became the key social factor that brings inequalities in the educational achievement among students (Graham, 2012).

Reeves (2009) assert that the economic activities of parents may create problems for day students arising from a lot of work at home. In Malawi, according to Scharff and Brady (2011), girls are expected to help their mothers with labour-intensive house-hold chores before going to school and therefore arrive at class late and exhausted. Because of such responsibilities, girls are less likely than boys to perform well (Holcomb & Hord, 2012). Most students, especially girls, are engaged in such activities as caring for their siblings when their parents are away, taking care of the sick, and attending to traditional rituals, funerals, and other celebrations.

In Kenya Mensch and Lloyd (2010) found out that if girls have more domestic responsibilities than boys, they may have less time for homework. On the other hand, if girls are confined at home after school and boys allowed more freedom, girls may use some of their free time to do homework thus performing better than boys.

Mensch and Lloyd (2010) further propose that in order to achieve better results in schools then; there is need to create a home environment that encourages learning, express high (but not unrealistic) expectations for the children's achievement and future careers and finally the need for parents to become involved in their children's education at school and in the community. If two of these three criteria are accomplished, children of low income families may achieve at or above the levels expected of middle class children in mathematics.

2.6 Empirical Review

Topor, Terri and Shelton (2014) investigated parent involvement in a child's education in America. The qualitative study examines two potential mechanisms of this association: the child's perception of cognitive competence and the quality of the student teacher relationship. This study used a sample of 158 seven-year old

participants who were selected by simple random sampling, their mothers, and their teachers. Results indicated a statistically significant association between parent involvement and a child's academic performance, over and above the impact of the child's intelligence. A multiple mediation model indicated that the child's perception of cognitive competence fully mediated the relation between parent involvement and the child's performance on a standardized achievement test. The quality of the student-teacher relationship fully mediated the relation between parent involvement and teacher ratings of the child's classroom academic performance. The reviewed study was quatitative in nature while the current study is quanlitative nature. This was used in order to explore the influence of home differences on pupils academic achievement in mathematics.

A study conducted in Pakistan by Rafig, Fatima, Sohail. Saleem and Khan (2013) to explore the effect of parental involvement in the academic achievement of their children using a total of 150 students (boys and girls) of 9th class of secondary schools (public and private) as respondents. Four schools were selected through simple random sampling which included one boy and one girl from each of the public and private schools categories for equal representation of both boy and girl students in the sample frame of the study. Survey questionnaire was used as a tool for data collection. After the analysis of data, it was found that parental involvement has significant effect in better academic performance of their children. The study proved that parental involvement enhanced the academic achievements of their children.

In Kenya Ntitika (2014) conducted a study to investigate the parental characteristics influencing students‟ academic performance in public secondary schools in Isinya District, Kenya. The study adopted a descriptive survey design. The sample of the study included: 42 PTA members, 150 students and 4 principals in Public

Secondary schools in Isinya District. In total, the sample size was 189. Questionnaires and interview guides were used as the main instruments of data collection. The data was analysed using both qualitative and quantitative approaches. Quantitative data analysis from questionnaires data was presented in tables and graphs. Qualitative approach was used to analyze data retrieved from the interview guides. From the analysis the following key findings were made: Positive attitude encourages as well as enables the students to know the role of education in their future. Additionally, parental attitude encouraged students to love their studies and perform well in school. Slightly less than a third of the students indicated that parental level of education affected their academic performance to some extent. The reviewed study focused on parental characteristics influencing students' academic performance in public secondary schools while the current study was to explore on influence of selected home differences on pupils' academic performance in mathematics.

In Kisii, Kenya a study to investigate the home based factors that influence pupils' academic performance in Public primary Schools in South Gucha by Akeri (2015) using descriptive survey design and purposive sampling techniques to select the schools and simple random sampling to select class teachers and pupils, leading to a total of 32 Public primary schools, 64 class teachers and 40 pupils. The study used questionnaires for teachers and pupils. Test and re-test method was used to determine reliability of the instrument to 0.89. Data was analyzed using SPSS and presented in tables, frequencies, percentages and charts. The findings of the study were that most parents are poor and unemployed and hence cannot meet other required school levies. That, most of the parents have no formal education thus, can neither assist their children at home nor motivate them to work hard since they are ignorant of education. The reviewed study used only two research instruments; questionnaires for teachers while

the current study employed three research instruments; observation of pupils, interview for parents and pupils and document analysis of pupils School Based Assessment to triangulate data.

Mwaura (2014) conducted a study in Laari district, Kiambu County on home-based factors influencing students' performance in public day secondary. The specific objectives were to establish the influence of parents' level of education, socio-economic status of parents, parents' professional qualifications and home chores on students KCSE performance in public day secondary schools in Lari District. The study targeted 36 public day secondary schools with a population of 461 teachers and 288 Parents Teachers Association members. This gave a target population of 749 respondents. The study sampled 86 Parents Teachers Association members and 138 teachers. The total sample size was 224 respondents. The study randomly selected the Parents Teachers Association members and the teachers from the 36 public day schools. Questionnaires and interview schedules were used for data collection. Data was analyzed using the mixed approach. The study findings indicated that educated parents assist their students in doing their school work. Parents' socio-economic status influences the students KCSE performance. Professional parents participate better in academic performance and understand the importance of academics better. Teachers perceived that parents contribute to students' participation in home chores. More time is spent on home chores than on school work.

Chemagosi (2012) conducted a study to find out influence of parental involvement on academic performance of pre-school children in Emgwen Division, Nandi Central District, Kenya. The study's objectives were to establish the influence of parental perceptions of involvement on academic performance of preschool children, to examine the influence of parental types of involvement on their children's academic

performance, to find out the influence of parental role of involvement on the pre- school children academic performance, to determine the influence of parental initiative of involvement on preschool children academic performance and to establish the influence of parental time of involvement on academic performance of pre- school children. The study employed the use of descriptive research design whereby the data collected was not manipulated by the researcher in any way. The researcher targeted children, teachers and parents of preschool children in Emgwen Division. The study adopted both simple random sampling techniques. The sample size comprised of 17 teachers in Emgwen Division. Documentary analysis was provided by the teachers showing preschool children academic performance in the Mathematics, Kiswahili and English activity areas. Questionnaire for the teachers was used for data collection. Reliability was ensured by test and retest method and validity was tested through pilot study. The questionnaire was adjusted appropriately. The research utilised descriptive analysis and data was presented in form of tables. From the data analysed, the study noted the following findings; majority of the respondents had good initiative towards their children's performance. Preschool children from parents with good initiative performed better. A majority of the respondents sometimes communicate with their preschool children about their school progress. It was showed that children whose parents communicate with them perform better in academics than those who do not. The study concluded that only a few parents' respondents have high aspiration on their children's academic achievement.

In Ghana, a study conducted by Akoto, Chawa and Ansong (2012) for the Youth Save Research Brief using cluster randomized design with 100 schools selected randomly from eight of Ghana’s ten regions and 60 students selected randomly from each school for a total of 3,000 Youth in treatment condition and 3,000 in control

condition. The total sample of Youth was therefore 6,252 who completed a baseline survey. The study concluded that the nature of parent's engagement in their children's education and socio-demographic factors like educational level affect involvement. The parents were somewhat in involved in their children's education but the extent of involvement was low overall hence it was used as predictor performance in exams. The reviewed study only employed simple random sampling which lacked in depth study of the research problem while the present study used purposive sampling to avoid doubts and to do in depth study of the subject matter.

The factors discussed in the above literature affects pupils learning of mathematics in the homes in one way or the other. Parental involvement and the role their house environment plays contributes to the performance of pupils in mathematics.

2.7 Conceptual Framework

A conceptual framework or model is simply an attempt to classify the major elements of an entity or phenomenon with regards to their functions and inter-relationship in order to observe more closely causal relationship. Asika (2003) said that these relationships and functions can be represented schematically or mathematically. To study the influence of pupils' home differences on their academic achievement in mathematics, factors associated with students' academic achievement in mathematics were identified at home level as shown in Fig. 2. In relation to this model, literature was reviewed from a wide theoretical perspective on the basis of the elements at national and home levels as contained in the model with the purpose of examining their effects on pupils' academic achievement in mathematics. This conceptual framework was first developed based on the contextual factors of the Ghanaian society. The contextual factors were; the Ghanaian socio-economic, political, and cultural

environment factors. These factors provide the framework for collecting and analyzing the data to establish the results that fulfilled the objectives of the study. It further allows for drawing implications on the effects of pupils' home differences on their academic achievement in mathematics for public policy and positive family culture to promote academic excellence not only in Amansie West District but other areas with similar conditions.

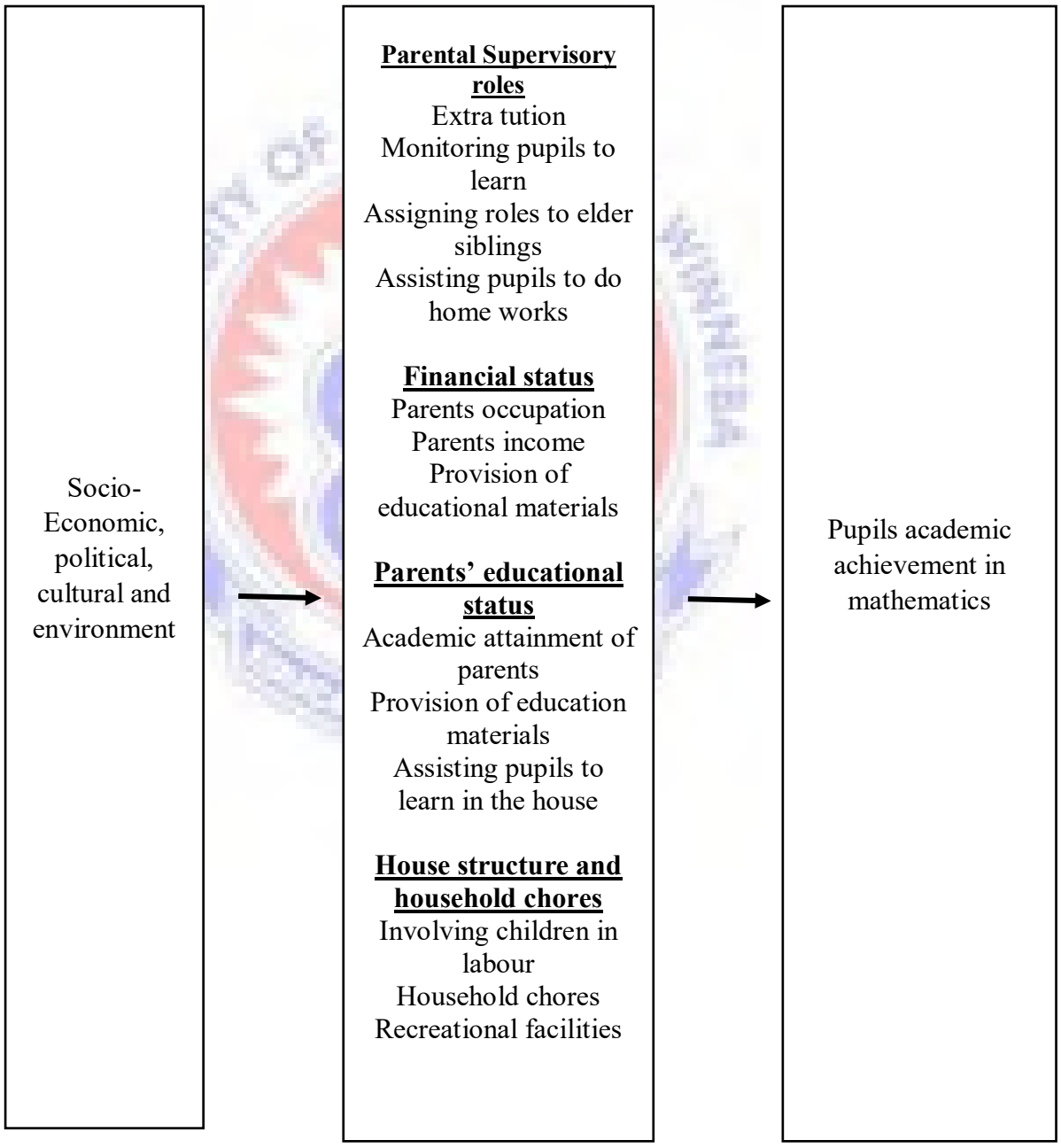

Figure 2: Conceptual framework.

2.8 Summary of literature

The above literature depicts that the home differences ideally have a greater influence on pupils' academic achievement in mathematics. The variables involved are parents' supervisory roles on pupils learning in the house, parents' socio-economic status, parental educational status and home background factors on pupils' academic achievement in mathematics.

From the review of the literature, it can be seen that research on home differences influences pupils' mathematics learning is inconclusive. For instance, Muola (2010) asserted that learners' academic performance is being influenced by lack of facilities in school, lack of teachers, indiscipline, low intelligence, anxiety and learners' motivation to achieve among others. These factors tend to be more school focused rather than home-based factors. While learners are exposed to similar learning environment within the school, they come from homes with different social and economic characteristics.

There is therefore the need to establish the extent to which home influences of pupils impact on their performance, especially in mathematics. A situation where some pupils do well academically irrespective of the low socio-economic background of their parents; other do not do well despite the high socio-economic background of their parents. This study therefore seeks to explore the home differences influence on pupils learning of mathematics.

CHAPTER THREE

METHODOLOGY

3.0 Overview

The chapter presents the methodlogy that guides the study. Specifically, the chapther covered research design, philosophical underpinning, population, sample, sampling technique, research instruments, data collection procedure, thrustworthiness criteria and ethical consideration.

3.1 Research design

The research design used was a case study. Case studies are designs of inquiry found in many fields, especially evaluation, in which the researcher develops an in-depth analysis of a case, often a programme, event, activity, process, or one or more individuals. Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995; Yin, 2009, 2012).

Therefore, the case study method was chosen to examine home differences and pupils' academic achievement in mathematics in the Amansie West District. The study aimed to discover how pupils' home factors influences their academic achievement in mathematics.

Case study was used due to the fact that pupils at the lower primary will find it difficult in answering questionnaires hence the idea of using a case study to collect data from them. Also, I decided to collect data based on the experiences and the views of the research participants. The detailed qualitative accounts often produced in case studies not only help to explore or describe the data in real-life environment, but also help to explain the complexities of real life situations which may not be captured

through experimental or survey research (Zaidah, 2007). A disadvantage of a case study is that it is often labelled as being too long, difficult to conduct and producing a massive amount of documentation (Yin, 1984).

3.2 Philosophical Underpinning

This research approach is underpinned and guided by interpretivist paradigm. In the interpretivist paradigm, it is emphasized that the researched subjects (the participants) are interpreters and co-producers of meaningful data.

Interpretivist is based on a life-world ontology that argues all observation is both theory- and value laden and investigation of the social world is not, and cannot be, the pursuit of a detached objective truth (Leitch, Hill, & Harrison, 2010). Epistemologically, the viewpoint of the interpretivist paradigm is that our knowledge of reality is a social construction by human actors (Burrell & Morgan, 1979). The interpretive research paradigm is characterized by a need to understand the world as it is from a subjective point of view and seeks an explanation within the frame of reference of the participant rather than the objective observer of the action.

Also, interpretive research acknowledges the feelings, experiences and viewpoints of the researched as data. Data collected in interpretivist paradigm is mainly verbal (Kusi, 2012). The major reason the researcher chose to use this paradigm is that; first, it allows the researcher to access the experiences and viewpoints of the research participants. Second, the paradigm recognizes the role of the researcher and research participant in knowledge construction, acknowledging interpretations as social constructed realities.

In this study, data was obtained from the respondents through verbal communication and observation. Through the communication their emotions, feelings and experiences were identified as part of data.

3.3 Research Approach

Basically, there are three major research approaches namely, qualitative research approach, quantitative research approach and mixed method approach. Qualitative research explores attitudes, behaviours and experiences and it attempts to get an in depth opinion from participants (Dawson, 2002). Quantitative research reaches many people but the contact with those people is much quicker than it is in qualitative research (Dawson, 2002). Mixed method approach integrates the qualitative and quantitative research approaches in a single project (Bryman, 2004). The researcher adopted the qualitative research approach in this study. This helped to uncover trends in thoughts, experiences and opinions from the participants selected for the study.

3.4 Population

Amansie West District is located in the South Western part of the Ashanti region of the Republic of Ghana. It shares common boundaries with the Atwima Kwanwoma District in the north, Atwima Mponua and Atwima Nwabiagya on the West, Bekwai Municipality and Amansie Central District on the East and shares it southern boundary with the Central and Western Region of the Republic of Ghana.

The major occupation of the inhabitants of the district is farming (cash crop and subsistence) and small scale mining. There have been booms in trading business in the district due to the activities of the small scale mining.

The district has a total population of 134,331 out of this 67,485 are male and 69,790 are female (2010 Population and housing Census). The target population for the study is all primary school pupils in the district.

The target population for the study consist of all basic school pupils in the Amansie West District. The district has an enrolment of 23,104 pupils. Out of this 11,789 are boys and 11,315 are girls (G.E.S. EMIS, Amansie West Directorate (2019), Appendix A). The accessible population consists of all Primary 3 pupils in the Manso Nkwanta Circuit of the Amansie West District 598 consisting of 295 boys and 303 girls.

3.5 Sample

A sample of 12 participtants including 6 pupils and 6 parents was used for the study. Yin (2014) recommends at least six sources of evidence in case study. In other words, six or more sources interviewees are recommended per case study therefore employing a sample size of 12 is considered appropriate. Also, the type of information that qualitative studies yield is rich in detail. There will therefore be many hundreds of 'bites' of information from each unit of data collection. Sample sizes need to be kept to a reasonably small scale (Ritchie, Lewis & Elam, 2003). The researcher decided to use a sample size of twelve in order to spend much time on them to get the required information for the study.

3.6 Sampling

Purposive sampling technique was used to sample the six pupils from three schools in the Manso Nkwanta Circuit of the Amansie West District. The three schools were conveniently sampled due to the fact that they were accessible to the researcher. Also, the three schools selected provided the researcher with rich in depth information concerning the problem at hand. The schools were Manso Nkwanta D/A Primary

School, Manso Suntreso D/A Primary School and Bebuabou/Essubinja D/A Primary School.

The researcher picked one best pupil in mathematics and one pupil who performs weakly in mathematics from Class Three of each school. The parents of the identified pupils were used for the study.

3.7 Research Instrument

The instrument used to collect data were semi structured interview, observation and document analysis. Data from both pupils and parents were collected using semi-structured interview. Sample of data collection instrument is in Appendix B and C.

Interviews 'involve a set of assumptions and understandings about the situation which are not normally associated with a casual conversation' (Denscombe 1998). Interviews can be grouped into structured, semi-structured and unstructured interview (Birmingham & Wilkinson, 2003). The researcher made use of semi structured interview. In semi structured interview, I directed the interview with most questions originating from pre-determined themes from my literature review. The semi structured interview was used because the respondents for the study had limited literacy. To support this Birmingham and Wilkinson (2003) asserted that it is inappropriate to ask respondents who had limited literacy skills to complete lengthy questionnaires.

Observation is 'research characterized by a prolonged period of intense social interaction between the researcher and the subjects, in the milieu of the latter, during which time data, in the form of field notes, are unobtrusively and systematically collected' (Bogdan 1972). Observation was used to confirm the data obtained in research questions one and four. I captured images to authenticate the results of data obtained for research questions one and four. Patton (1990) suggests that observational

data should enable the researcher to enter and understand the situation that is being described. Morrison (1993) asserted that observation enables the researcher to gather data the interactional setting (e.g. the interactions that are taking place, formal, informal, planned, unplanned, verbal, non-verbal etc.).

Document such as School Based Assessment Books of the various schools and mathematics exercise books of the children were analysed to enable the researcher identify his participants of the study. The analysis was done to check their performance in mathematics for the previous term and the current term. Cresswell (2008) asserted that not all documents you may lay hands on can be analysed; their inclusion in the study has to be justified by using the relevant or appropriate validation criteria.

3.8 Trustworthiness Criteria

According to Shenton (2004), trustworthiness in a qualitative study aims to support the argument that the study's findings are worthy of receiving attention. In order to establish trustworthiness, credibility, dependability, transferability and confirmability were established.

Credibility: Credibility focuses on establishing a match between the constructed realities of the participants and those represented by the researcher (Patton, 2002). To ensure credibility in this study, the interviews that were conducted were audio-taped and this ensured that the researcher could re-visit the interview with ease to ensure that the reality that the researcher had recorded was not a fabrication. The researcher ensured that there was accurate reflection on the interview by cross-checking with the participants regarding what had been experienced during the interview. Field notes reflected what transpired during the interview. Peer debriefing was used to ensure that

the items in the interview guide did indeed relate to aspects of parents involvement and academic achievement of students.

Dependability: Dependability deals with the consistency of research results obtained over time. Dependability, according to Shenton (2004) can be established by using different methods of data collection and different times of collecting the data on the same research problem. In this study, dependability was established by having prolonged and concentrated engagement with the participants about the study, three to four weeks in this case.

Confirmability: According to Patton (2002), confirmability can be established if the results can be linked to the data itself. It speaks to data management and the analysis of the data itself. In this study, confirmability was established by keeping the collected data that was used for interpretation safely, so that any interested researcher could access the data for inspection. In addition, an audit trail was done by independent critical readers whom the researcher had asked to evaluate the methods used for the gathering of the data.

Transferability: Transferability refers to the applicability of the findings to another setting (Shenton, 2004). As this is a qualitative study and no substantive generalisations could be made, the researcher gave thick description with enough detail of the findings so that readers could decide on their own whether the results of the study would be transferable to their own research contexts or not.

3.9 Data Collection Procedure

The researcher collected School Based Assessment (SBA) of class 3 pupils, exercise books, marked exams scripts and home works. Based on the report from these documents he was able to identify his research participants. In Manso Nkwanta D/A Primary, a boy and a girl was identified as the best performing pupil in mathematics and a weak perfoming pupil in mathematics. In Bebuabou/Essubinja D/A Primary, a boy and a gril were identified as both weak performing and best performing pupils in mathematics. In Suntreso D/A Primary, a girl was the best performing pupil and a boy was the weak performing pupil.

I visited pupils and parents in their various homes to conduct interviews and observe how pupils interact with their parents in the house. Before the visitation, appointment was booked and time for the interview was communicated back to the researcher through the use of consent form. I used a period of one month for this. I explained the purpose of the study to them as 'home factors and how that impacts pupils' academic achievement in mathematics in their schools.'

For the first day of interview, I visited Manso Suntreso township to interview four respondents two pupils and two parents. I conducted the face to face interview orally with audio recording using Infinix Hot 6 mobile phone. The duration of interviews lasted for 20 minutes for pupils per each session and 20 minutes for parents per each session. The second day of the interview, I visited the respondents at Bebuabou/Essubinja township where four respondents comprising two parents and two pupils. Oral interview was conducted face to face with audio recordings with the help of Infinix Hot 6 mobile phone. Interview session lasted for 22 minutes per each pupil and 18 minutes per session for each parent. On day three of the interview, I visited houses of two pupils and their parents from Manso Nkwanta D/A Primary School. I

conducted face to face oral interview for pupils and parents whih lasted for about 20 minutes for each pupil and 16 minutes for each parent. The recordings were then played back to the particpants for them to share their experiences concerning what they said.

Obesrvation was done during regular visits to the respective homes of the various respondents. The visit was to check whether these children were supervised to learn and assisted to do their homeworks. Also, to check what they do in the house; if they are involved in performing household chores, watching television and playing around.

3.10 Data Analysis

The voice recordings gathered from the field through the use of semi-structured interview was analyzed qualitatively using thematic analysis. Thematic analysis is a highly qualitative data analysis method (Dawson, 2002). The analysis started with the transcription of the audio-tape recordings. The researcher listened to each of the audio tapes repeatedly as he wrote down exactly what the respondents' said. The researcher then determined the analytical themes that were used for the analysis. The determination of the themes was guided by the research questions. Related data was categorized accordingly. The responses made were not attached to individual names but rather they were attached to codes already assigned to them by the researcher. The codes were CH for pupils and PT for parents. The researcher used relevant quotations from the field and the literature to support respondents' views. This was done for all the research questions.

Observation data were mainly images captured during the field work. The images captured was to validate responses in research questions one and four. Data from document was used in determining the sample or research participants.

3.11 Ethical Consideration

Introductory letter (Appendix D) from the Department of Basic Education, University of Education was used to seek permission from the Amansie West District Education Office (AWDEO) before data collection commenced. The introductory letter from the AWDEO (Appendix E) was shown where ever data was collected. Creswell (2005) asserted that it is unethical to enter inot an organization or social groups to collect data without permission from the 'gate keepers' of the organization.

Confidentiality means that although researchers know who has provided the information or are able to identify participants from the information given, they will no way make the connection known publicly, the boundaries surrounding the shared secret will be protected (Cohen, MAnion & Morrison, 2007). To ensure confidentiality, the researcher assured the participants of keeping potentially explosive information revealed by them and that none of such pieces of information would be disclosed to anybody. This helped participants to freely share their thoughts, feelings and experiences concerning the issues under study.

A participant or subject is considered anonymous when the researcher or another person cannot identify the particpants from the information provided (Cohen et al, 2007). Also, to ensure anonymity, personal data such as names and addresses of respondents or participants who answered the open-ended questionnaires were left out in the design of the instrument. This made it impossible for anyone to trace any information to a particular respondent.

Again, participants were not forced to take part in the research. They were contacted, briefed about the research and appropriate approval (Appendix F, copy of consent form) was given before the researcher engaged them in the research. Moreover, the researcher ensured that, the dignity of all the respondents or participants was

respected. They were made to understand that, they were at liberty to opt out if at any point in time they felt uncomfortable.

Their consent was sought before voice recordings were made and photographs taken. Gall, Gall and Borg (2007) asserted in the case of minors (children), the resrachers must obtain only their assesnt (that is apparent willingness) because minors cannot legally give consent unless from their parents or caretakers. Whatever was recorded was played back for them to listen before leaving. They were not forced to answer all the questions asked by the researcher. The researcher ensured that other people's work were not copied or reprinted as his own. Articles, books, thesis etc. which the researcher got information from were duly acknowledged and these could be seen from the references.

CHAPTER FOUR

RESULTS, ANALYSIS AND DISCUSSION

4.0 Overview

This chapter presents the results of data collected from the respondents. The respondents in the study were 12. This comprised of six parents and their respective children from three schools in the Manso Nkwanta Circuit of the Amansie West District of Ghana. The presentation of results was presented in six sections. The first section presents the background information of all the 12 respondents. The second section presents the data relating parents' supervisory practices that affect pupils' performance in mathematics. The third section presents the data relating parents' socio-economic status on pupils' performance in mathematics. The fourth section presents the data obtained from the field in relation to impact of parents' academic status on pupils' mathematics learning. The fifth section presents results concerning pupils' household chores and home facilities and their impact on pupils' performance in mathematics.

4. 1 Background Information of Respondents

The background information of the respondents focused on the gender, age of pupils, parent living with, highest level of education of parents, and occupation. The information gathered from the field in relation to the stated issues have been arranged in a tabular form for easy comparison and discussion.

Gender Representation of Respondents

Table 1 represents the gender representation of pupils who participated in the study.

Table 1: Gender Representation of pupils

Sex (%)	**Frequency**	**Percentage**
Male	3	50%
Female	3	50%
Total	**6**	**100%**

Source: Field work, 2019

From Table 1, 50% of the pupils were female while 50% were male. All parents interviewed were females.

Educational Background of Parents

Table 2 represents educational background of parents who participated in the study.

Table 2: Educational Background of Parents

Educational Background	**Frequency**	**Percentage (%)**
SSCE	1	16.7
BECE	1	16.7
Nil	4	66.6
Total	6	100

Source: Field work, 2019

From Table 2, 4 parents interviewed were had no education. Ezewu (1988) found that educated parents provide adequate learning materials for their children, which stimulate them to learn and perform better in all subjects. Literate parents are concerned over their children's education/performance, which sometimes makes them coach their children themselves or appoint part-time teachers for them. They send their children to the best nursery and primary schools which serve as sure gateways to secondary and university education which in turn leads to higher educational qualification to occupy higher positions in society.

Occupation of Parents

Table 3 represents the jobs parents who participated in the study do for a living.

Table 3: Occupation of Parents

Job	Frequency	Percentage (%)
Farming (Subsistence)	3	50.0
Galamsey (illegal Mining)	1	16.7
School Feeding Cook	1	16.7
Trading	1	16.7
Total	**6**	**100.1**

Source: Field work, 2019

From Table 3, most parents interviewed were subsistence farmers. Farming is a predominant activity in the district.

Age of pupils

Table 4 represents the age distribution of pupils who participated in the study.

Table 4: Age distribution of pupils

Age (years)	Frequency	Percentage (%)
8	2	33.3
9	2	33.3
10	2	33.3
Total	6	100.0

Source: Field work, 2019

From the Table 4, two pupils had age 8, two age 9 and two had 10.

Persons pupils live with

Table 5 represents persons pupils used in the study live with.

Table 5: People pupils living with

People	Frequency	Percentage (%)
Both Parents	5	83.3
Grandparent	1	16.7
Total	**6**	**100.0**

Source: Field work, 2019

From Table 5, it can be seen that most of the pupils interviewed were living with both parents. Majoribanks (1996) states that children from single parents households do not perform as well as children from nuclear family households. Single parents have less income and lack support which can increase stress and conflicts. They usually struggle with time management issues in order to balance many different areas; in the process some become less involved with their children and give less encouragement and have low expectation for their children than nuclear family households. Divorced parents negatively affect academic achievement of their children and cause a decrease in family's socioeconomic status and parental connections are harmed (Jeynes, 2002; Majoribanks, 1996).

4.2 Research Question One

How do parental supervisory roles affect Basic School pupils' performance in mathematics in the Amansie West District?

After the data collection, the researcher presented his results on research question one by using predetermined themes in semi structured interview as selected questions relating to the above issue. I also presented results of observation data in an image. Data was coded using CH representing pupil and PT representing parent.

Picture 1: Parent supervising child to learn in the house (Source: Field work, 2019)

Picture 1 depicts what a parent should do in the house. Parenst must supervise their wards to learn manthematics and also to do their mathematics homework in the house. Parents should also supplement mathematics teaching for their children in the house. This will enable them understand what they did not understand better because the subject will be taught in a language which the child did understand.

Pupils were asked whether they were giving mathematics homeworks by their teachers? All the pupils (CH) said they were given homework and the subjects they were most given was mathematics and English. CH 6 (male and 8 years) for example remarked that:

> *I am given homework and the subjects I am given are mathematics, English, science and at times other subjects.*

CH 3 (female and 9 years) also remarked:

> *I am given homework, the subjects are English, Mathematics, and French*

Parents on this issue were asked whether their children bring home mathematics homework? With regard to pupils' homework, all the parents (PT) stated that their wards brought homework to the house. PT 3 for example remarked that:

> *Yes, the subjects are mainly mathematics, English and French*

PT 6 for example remarked that:

> *He brings homework to the house; the subjects are mathematics, English, French*

This therefore confirms that pupils were given homework and parents were aware that their wards were given. This confirms Paul (2012) statement that, recent researches have shown that, parental involvement in checking the homework of their children, regular attendance of school meeting, discussing school activities with their children have more powerful influence on students' academic performance than anything about the school the student attend.

When pupils were asked who reminds them to do their homework? Four pupils said they are reminded to do their homework either by their mother or elder sibling while two of the respondents said no one reminds them to do their homework. CH 1 (male and 8 years) for example remarked that;

My mother and elder siblings reminds me to do my homework.

CH 6 (male and 8 years) for also remarked this;

My mother reminds me to do my homework

When asked why they remind their children to do their homework, four parents stated that their wards are given homework and they do remind them to do it. PT1 for example remarked that:

I do remind my son to do his homework. I am afraid he will be punished in school if he fails to do it.

For PT 6, she remarked that:

I remind him to do his homework because, it helps him learn what he was taught in school and also to prevent him from being punished.

This implies that parents do remind pupils to do their homework because they are afraid their wards will be punished for failing to do it. In contrast, reminding children to do their homework does not prevent them from being punished but rather improves their learning both at school and in the house. For this, Clark (1993) noted that monitoring children's after school activities such as homework, sports, and peer interactions are important in achieving educational goals. Therefore, parents who monitor their children's behaviour after school are more likely to have high achieving children than parents who do not monitor their children's after-school activities (Clark, 1993).

Whn asked who supervises and assists you to do your home work, six pupils stated that they are supervised and assisted to do their homework either by an elder siblings or by a parent. CH 1 (male and 8 years) for example remarked:

My brother supervises and assists me to do my homework. He does that daily.

Four parents said they do not assist their wards to do their homework because they can't read or write. Two of the parents said they do assist their wards to do their homework. For that they have assigned their elder siblings to assist them. PT 1 for example remarked:

I sometimes see him doing his homework with his elder brother but since I can't read or write I don't join them.

This implies that pupils are assisted and supervised to do their homework in the homes by their elder siblings. Parents must assist pupils to do their homework in the house. If for one or two reasons they cannot fulfill this role, it is their responsibility to delegate others for that responsibility. Such involvement enables pupils to be retaught in one way or the other at home. This helps them to understand what was taught in school better and seek clarification. For that Epstein (1998) asserted that parental time of involvement on pre-school children's academic performance, the more time parents worked with their children on their homework, the more influence it had on their children's academic performance. Children of parents who motivated their children many times and made follow up activities in school work performed better.

When asked who supervised them to learn mathematics, Four of the pupils stated that they do learn mathematics on their own with no supervision. CH 4 (male and 9 years) for example remarked that:

I do learn mathematics at home, no one supervises me to learn

When the parents were asked on assisting their children to learn mathematics in the house, 4 parents stated that since, they can't read nor write they do not supervise and assist them to learn mathematics. PT 4 for example remarked:

No one assists her to learn in the house. His father doesn't have time and I the mother can neither read nor write.

This implies that pupils learn in the house on their own. Pupils' learning at home should be keenly monitored by parents to enable them see what their wards are learning. If children are not supervised to learn in the house, they learn unwanted materials. To this, Chemagosi (2012) asserted that a large number of children who have difficulties in their academic progress are not receiving adequate help at home. It appears that fathers are not willing or are unavailable to devote time to their children's academic performance. It is the duty of parents to spare much of their time to shoulder more responsibility towards their children's academic performance, even if it just means to supervise home work.

When asked whether they have teachers who teaches them mathematics in the house, all the pupils said they don't have teachers who teach them mathematics in the house. This means that the children do not receive extra tuition in the house. The only tuition they receive is at school by their class teachers. CH 4 (male and 9 years) had this to say:

> *I don't have a teacher to teach me in the house. So no one teaches me mathematics at home.*

When asked whether they have employed the services of a teacher to teach them mathematics in the house, all the parents confirmed the situation but citing financial reasons for being the cause of that. The parents stated that they have no money to employ the services of a teacher to teach them in the house. PT 4 for example remarked thus:

> *I have not employed the services of a teacher to teach him in the house. I see that as waste of finances since the child does not know anything.*

This implies that pupils are not taught by teachers in the house. The parents also see it as waste of resources employing teachers to teach their children in the house. This

goes contrary to what Ezewu (1988) found that educated parents provide adequate learning materials for their children, which stimulate them to learn and perform better in all subjects. These parents are concerned over their children's education/performance, which sometimes makes them coach their children themselves or appoint part-time teachers for them. They send their children to the best nursery and primary schools which serves as sure gateways to secondary and university education which in turn leads to higher educational qualification to occupy higher positions in societies.

When asked are you motivated to learn mathematics, All the pupils stated that their parents do motivate them. The motivation mentioned was mostly based on advice and gifts. CH1 (male and 8 years) for example remarked:

> *I am being motivated by my mother to learn hard both at home and at school. She does offer me gifts when I perform well at the end of the term especially in mathematics and English Language.*

All the parents also confirmed what their kids said that they do motivate extrinsically them to learn. They do offer them gifts when they perform well in school to the extent of buying them new clothes. PT1 for example remarked this:

> *I do provide him with clothes and prepare special meal for him whenever he positions first in exams.*

This implies that pupils are being motivated to learn in the house. But the type of motivation provided is mainly extrinsic. What parents are to do is to provide a condition in the house what will motivate the pupils intrinsically. Parents are also to encourage children to learn and make them aware that if they take their studies seriously, they will not 'suffer' as they are currently. Also, parents are to make children aware that their future lies in their own. For this, Green (2007) and Barnes and Farell

(1992) asserted that the process of praising, encouraging, and giving physical affection as forms of parental support does not only improve academic performance but also demonstrates the level of acceptance children enjoy from their parents.

From the above results, it can be deduced that pupils were given mathematics homework and they were reminded by parents to do it to avoid being punished by teachers in their various schools. Also, there was a delegation of power by parents to elder siblings to assist their younger ones to do their mathematics homework. Four parents do not supervise children to learn mathematics in the house. Also no teacher has been employed to teach the children in their various homes, though parents do motivate pupils after they have performed well in school. This was done extrinsically, what parents must do is create a conducive environment for pupils to learn both at home and in school.

From the above, parental supervisory roles can be represented diagrammatically as follows;

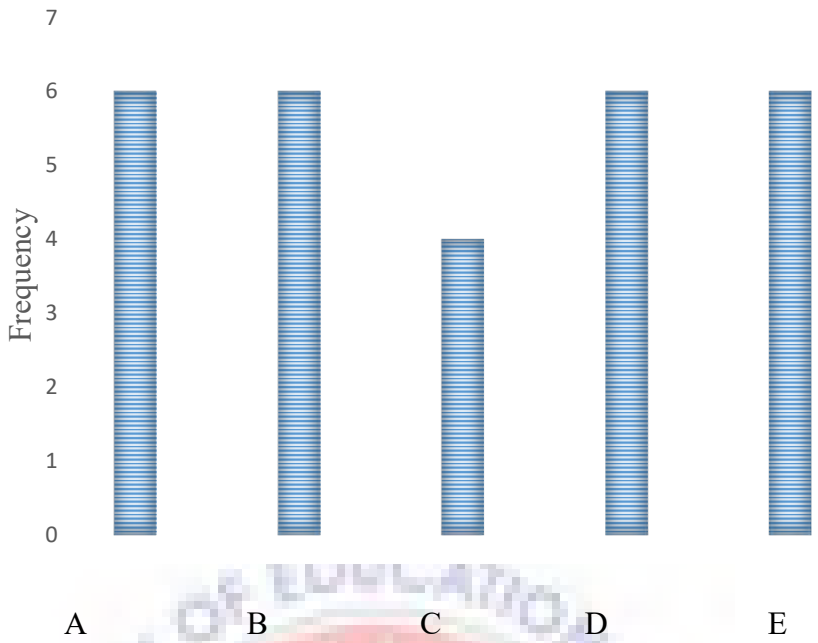

Figure 3: Parental Supervisory roles *(Field Work, 2019)*

Key

Horizontal Axis – themes generated under the issue

A – Pupils are given mathematics assignment, parents remind them to do it

B – Parents/elder siblings are delegated to assist pupils to do it to avoid being punished

C – Pupils learn mathematics at home without supervision

D – No teacher is employed to teach them mathematics in the house.

E – Parents motivate pupils to learn mathematics

4.3 Research Question Two

What is the influence of parents' educational background on Basic School pupils' mathematics learning in the Amansie West District?

Results of this research question two was obtained by using data from interview recordings. Themes generated from the audio tape recordings were derived from questions asked during the interview sessions. Coding for respondents were CH for pupils and PT for parents.

When asked can your parents read and write, Four of the pupils stated that their parents could not read and write. CH 5 (female and 10 years) for example remarked that:

> *My parents cannot read and write, I have not seen them reading and writing before. They let my aunt read their text messages for them.*

When asked about their level of education, Four of the parents confirmed that they have not had any formal education hence they are illiterates. They confirmed what their children said. PT 5 for example remarked:

> *I have not been to school before, but my husband I know him, he ended in class two.*

This implies that the parents could not read and write. In this situation, majority of the parents interviewed were illiterates (that is they cannot read nor write). Being illiterate does not mean you cannot supervise your children to learn. This according to Muyalo (2017), education level of a parent is a significant predictor of a child's educational achievements and behavioral outcome. Parents who are educated raise children to have healthy self-perceptions when it comes to their academic abilities, engage them in intellectual activities that help them develop a healthy attitude about

learning and generally have children with fewer behavioral problems that may hinder their learning experiences. Also these parents become career guidance coordinators and shape their kids career. They also let their kids live their lives through them. When parents are illiterates, their children do not have these benefits hence poor performance in mathematics and school. On the other hand, parents who were academically endowed but did not get help form their parents can pass that trait to their children.

When asked who interprets your terminal report to you, four of the pupils stated that their parents do not interpret the information on their terminal report to them but their elder siblings or their external relatives like uncles and aunts. CH 2 (female and 10 years) for example remarked that:

> *My elder brother interprets my terminal report to my parents and me.*

When asked who interprets your wards terminal report for you, four of the parents confirmed the above statement and went on to say that even their elder siblings often assist them to do their homework. PT 2 for example remarked that:

> *I do let her cousin interprets her terminal report, even when he is at home during vacations he assists her in doing her homework.*

This implies that though four parents cannot read and write they let elder siblings and other relatives interpret what is written on their terminal reports. This will enable parents make the right decision on their child's education. Decisions like whether the child needs a remedial class for a certain grade before the child progresses to the next grade. This confirms the statement by Haveman and Wolfe (1995) that educated parents were also found to be able to make constructive decisions, such as how much time to spend with their children, give their income and may decide on how

much to give to their children's education. Since these parents are illiterates they employ the services of elder siblings to do that job and make constructive decisions on pupils' education.

When asked if their parents level of education encourages them to learn mathematics, 6 pupils stated that looking at the educational level of parents they are being motivated to exceed them on the academic ladder. CH 3 (female and 9 years) for example remarked:

> *I am eager to end at the university level though my parents did not reach there.*

When asked whether they have interest in their wards exceeding them on the educational level, 6 parents confirmed that though they did not receive the best of education, they are willing their children will exceed them to the higher level more than what they reached. PT 3 for example remarked this:

> *Yes we will further him to the tertiary*

Also all the parents confirmed that they do motivate their wards to learn by advising them and offering them gifts. PT 2 for example remarked this:

> *I do advise and motivate her to take mathematics lessons seriously. She was not performing well in the subject but through our advice and gifts from her father things are changing.*

This implies that though parents are not educated, they are eager to help their children exceed them on the academic ladder. Also they do motivate them to learn. This disputes Mattison et al's., (2014) statement that parents with higher education levels have stronger confidence in their child's academic abilities, and they also have higher expectations of their child. They expect that their child will get good grades, behave well in school and attend college. These high expectations motivate their child to do

well. The confidence they have in their child enable the child to build his own confidence in his academic abilities hence succeed in life. The association between parents' and their children's educational attainments has been one of the measures featured in the study of intergenerational mobility. To add up, Kundu and Tutoo (2000) found that home background has a significant influence on the achievement of children at school because educated parents tend to offer more psychological, social and financial support to their children, thus giving them the opportunity to excel in their studies.

When asked whether their parents teach tehm mathematics in the house, Five of the pupils stated that their parents do not teach them mathematics in the house. CH 5 (female and 10 years) for example remarked this:

Huh, my mother do not teach me mathematics in the house.

CH 1 (male and 8 years) also said this;

My parents do not teach me mathematics, I learn mathematics on on my own.

When asked whether they teach their children mathematics in the house, Five of the parents also confirmed what their children said citing their reason as their inability to read and write. PT 5 had this to say:

I do not teach my child mathematics at home because I did not attend school.

PT 1 also had this to say:

I do not teach him mathematics in the house. I do not have time and also I cannot read nor write.

This implies that five parents do not teach their children mathematics in the house. This is due to the fact that, they are illiterates, they do not have time and they

did not attend school. The child who receives double instruction, from the parent and from the teacher, makes better progress than the child who receives the single instruction of the teacher (Brooks, 1918). In addition, educated parents provide intellectual, economical, psychological and emotional support to their children who in turn make them to be more comfortable and adjusted to their learning development, and this result in high academic performance (Ahmad & Najeemah, 2013).

From the above, parents interviewed were illiterates hence cannot assist pupils to learn in the house. This therefore let them rely on elder siblings and external relatives to interpret terminal reports of pupils to their parents. In addition to this, pupils are motivated to exceed the level of education their parents reached. Also, parents could not teach the children mathematics in the house due to the fact that they were illiterates, do not have time and they did not attend school. Therefore it can be concluded that parental academic status contributes to pupils' performance in mathematics.

From the above, parents' education status can be represented diagrammatically as follows;

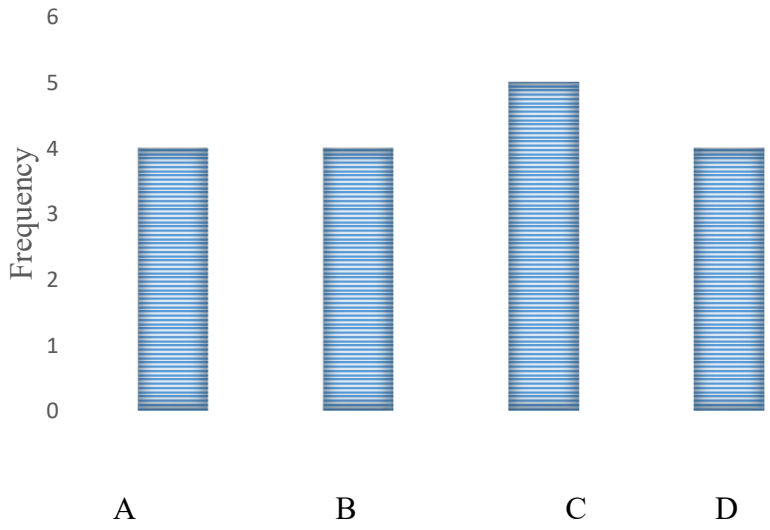

Figure 4: Parents' education status *(Field work, 2019)*

Key

Horizontal axix – themes generated under parental education

A – parental able to read and write

B – who interprets your results to ward

C – parental education level encouraging you to learn

D – parent teaching ward in the house

4.4 Research Question Three

What is the influence of parents' financial status on Basic School pupils' mathematics learning in the Amansie West District?

After the data collection, the researcher presented his results on Research Question Three by using predetermined themes in semi structured interview as selected questions relating to the above issue. Data was coded using CH representing pupil and PT representing parent.

When asked the work their parents do, three of the pupils stated that their parents are farmers, one said his parents are illegal miners 'galamsey', one said his mother was a trader and the last one said her grandmother was a cook with the School Feeding Programme. CH1 for example remarked:

My parents are farmers.

Three parents confirmed what their wards said that they are farmers. They grow crops to feed their families. PT 1 for example remarked this:

I am a farmer. I do plant on a small scale to feed my family. I do sell some of the food stuffs when they mature in abundance.

This implies that 3 parents interviewed were subsistence farmers, the rest were illegal miners, trader and school feeding cook. Subsistence farming is when one family grows only enough to feed themselves (African Development Promise, 2014). Parents here grow crops to feed only their family. Their income level therefore becomes questionable since there is no source of income. The only income they get is to sell little of their produce. Smith (2001) asserts that significant predictor of intellectual performance at age of 8 years included parental socio economic status (SES). In the same vein, other researchers have posited that parental SES could affect school children

as to bring about flexibility to adjustment to the different school schedules (Guerin, Reinberg, Testu, Boulenguiez, Mechkouri, and Touitou, 2001).

When asked whether they meet their parents at home after closing from school, four of the pupils stated that they do not meet their parents at home when they close from school. CH 2 for example had this to say:

> *I do not meet my parents in the house after closing except Tuesdays because they don't mine on Tuesdays which is a sacred day.*

When asked whether their wards meet them at home after closing from school, four of the parents also confirmed that, their children do not meet them in the house after closing from school. PT 2 for example remarked this:

> *We come from farm to meet her in the house. The only day she come to meet us is Tuesday which is a sacred day.*

The only day in the week that they meet them is Tuesday which is a taboo for going to farm or working at the mine site. This indicates that children do not meet their parents in the house. Parents' concentration is only on the work they do and have little time for children when they close from school. This is due to the fact that from their work places they have to prepare food for the family therefore will have little time in attending to children's homework and their learning of mathematics in the house. For this Ewijk and Sleegers (2011) noted that high socioeconomic parents greatly participate in the learning of their children while low socioeconomic families are least likely to be involved in the education of their children (Turney & Kao, 2009). This is because most of the times low socioeconomic families are engaged in strenuous manual work in order to be able to provide food and shelter for their families (Ratcliff & Hunt, 2009).

When asked if parents are able to provide them with their needed mathematics materials, all the pupils stated that their parents do provide them with writing materials (exercise books and note books) but for learning materials, they do not. CH 6 (male and 8 years) for example remarked that:

> *They do buy me exercise books but for mathematics and other textbooks they do not buy them.*

CH 4 (male and 9 years) also have this to say:

> *My mother do buy me exercise books but not textbooks, she always say the textbooks are costly and also education is free.*

When asked how they do support the education of their children, all the parents confirmed what their pupils said by stating that they do not buy them textbooks. What they buy for them is exercise books. Some cited reasons as being related to their finances, others stated that education was free at the public school hence it was the responsibility of government to provide them to the schools, others said their wards will not take good care of them. PT 6 for example remarked this:

> *I do buy him exercise books but not mathematics textbook. This is because education is free and I am not supposed to buy textbooks*

PT 4 for example also remarked this:

> *I do provide him with exercise books but for textbooks, no, because she will destroy them*

This implies that pupils do not have mathematics textbook and other reading materials on mathematics. What they rely on to learn mathematics at home is only on their exercise books and note books. The use of textbooks in the house to learn is very important in children education. First, parents and elder siblings do use it to assist pupils

to learn in the house. Second, pupils use it as a reference material either to learn ahead or to solve more examples of a concept taught in the classroom. Parents inability to buy due to these reasons; finances, lack of proper care of the books by kids and the fact that education is free so textbooks are to be supplied by the government do to hold water hence should desist from such act. For this Ogoye (2007) noted that socio-economic status is a critical issue in many African communities where illiteracy and poverty levels are high, thus limiting parental involvement in homework. In some cases learning and reference materials have to be shared among pupils, and not all parents are able to buy for their children personal subject-specific text copies. Another research conducted by Patall et al., (2012) found that the surrounding environment of children at home is a vital player in results determination for students. This environment is mainly affected by the parent's social status as well as the income in that family. Thus, a parent who is able to procure reading materials for his children and other education propellants is able to instill a focused educational attention for them. In addition to this, parents income may bring adverse results to students since some of activities tend to be overdone leaving very little or no time for self-study at home. Some parents for example, are able to employ workers who can understand academic information. This becomes a challenge as some children end up getting their homework and assignments done by the domestic helps. Such students cannot compete favorably with the others who must struggle to perform their assignments. Other parents are capable of buying digital equipment for their children such as smart phones, modems, laptops etcetera, making research easier and accumulation of facts and information manageable facilities such as entertainment, children playthings, leisure, home library and television may build or destroy a child's education strength.

When asked if they are giving money for their upkeep, 6 pupils stated that they are being giving money by their parents for their upkeep. CH 2 (female and 10 years) for example remarked this:

I am being giving money to buy food when I come to school. The amount given is GH₵1.00.

When asked Six parents confirmed that they give the pupils money to buy food and other stuffs when they come to school. PT 2 for example remarked this:

I do give him money to come to school. The amount given is GH₵1.00 but the fact is he eats canteen at school.

This implied that parents do provide pupils with monies for their up keep. But the fact is the money given is too small but all the schools the researcher conducted the study are beneficiaries of the Ghana School Feeding Programme. Due to the high nutritional value of the meals served by the programme, pupils can use the money their parents gives them to buy snacks and water. The health status of the children which could also be traceable to parental socio – economic background can be another factor that can affect the academic performance of the students. Adewale (2002) reported that in a rural community where nutritional status is relatively low and health problems are prevalent, children academic performance is greatly hindered. This assertion is again hinged on nature of parental socio–economic background. Moreover, Eze (2002) had expressed that when a child gets proper nutrition, health care, stimulation during pre–school years, his ability to interact will take optimal advantage of the full complement of resources offered by any formal learning environment.

When asked whether parents do pay other bills charged at school, 6 pupils stated that their parents pay other bills charged by the school. Bills they pay are exams fees

and Parent Teacher Association (P.T.A) dues. CH1 (male and 8 years) for example remarked this:

My parents do pay my printing fees and P.T.A dues.

When asked if they pay bills charged by their wards school, All the parents confirmed that they do pay bills charged by the school their children attend. These bills includes exams fees and P.T.A. dues. PT 1 for example remarked this;

I do pay printing fees and P.T.A dues charged by the school.

This implies that parents pay other bills charged by the school. Payments of bills charged by school is another that depicts that parent's show commitment to the education of their wards. Education in Ghana public basic schools are free but parent teacher associations of the various schools charge an amount of money to be paid for the smooth administration of these public schools. These include, exams fees, P.T.A dues etc. When parents pay these bills it prevents their wards being driven from schools. Children raised in poverty are much less likely to have social and academic needs met than their more affluent peers are and, as a result, are subject to some grave consequences. Deficits in these areas inhibit the production of new brain cells, alter path of maturation, and rework the healthy neural circuitry in children's brains, thereby undermining emotional and social development and predisposing them to emotional dysfunction (Hepburn et al., 2009).

From the discussions above, it can be deduced that parents interviewed were subsistence farmers. Hence pupils hail from poor homes. Also, parents do not get time for their children since these children do not meet their parents at home after closing from school. Also, parents do buy exercise books for pupils but not textbooks hence pupils do not have mathematics reading materials in their homes. Parents also cited that education is free in public schools and hence it is the responsibility of the government

to supply them. Also, the parents cited financial constraints as reason for not supplying their children with the textbooks. Parents give monies to their children as upkeep and also pay other bills charged by school. Per the above results, if

From the above, parents' financial status can be represented diagrammatically as follows;

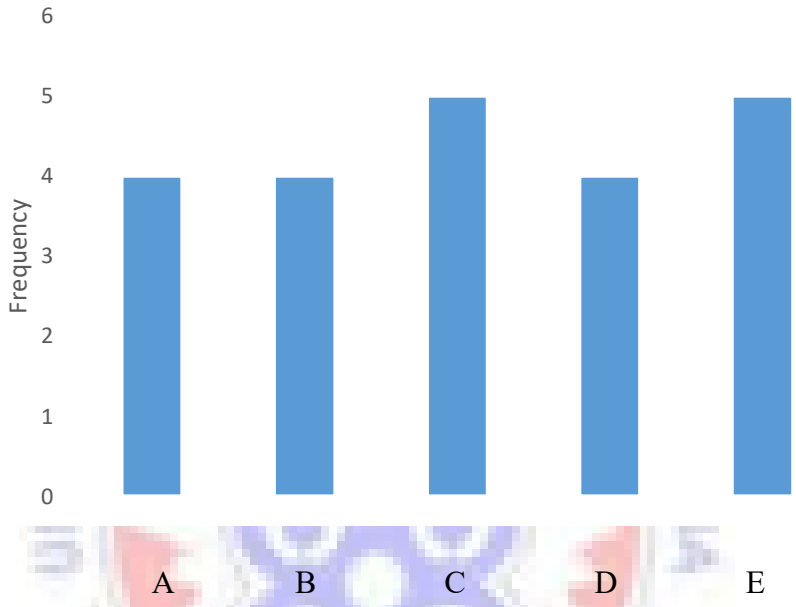

Figure 5: Parents' Financial Status *(Field work, 2019)*

Key

Horizontal axis – Themes raised under parents' financial status

A – occupation of parents

B – meeting parents in the house after school

C – Parents providing them with writing materials but not mathematics textbooks

D – Parents giving money for pupils upkeep

E – Parents paying other bills charged by the school

4.5 Research Question Four

What is the impact of household chores and sleeping on Basic School pupils' mathematics learning in Amansie West District of Ghana?

After the data collection, the researcher presented his results on research question four by using predetermined themes in semi structured interview as selected questions relating to the above issue. I also presented results of observation data in two images namely Picture 2 and Picture 3. Data was coded using CH representing pupil and PT representing parent.

Picture 2: Pupils performing household chores (Source Field Work, 2019).

From Picture 2, pupils are performing household chores. These activities aid pupils to be responsible and be able to help parents in the kitchen. This image confirms some of the results concerning pupils performing household chores in their various homes.

Picture 3: Pupils playing outside their house after school hours (Source: Field Work, 2019).

From Picture 3, some children including a participant of the study are playing outside from their various homes. This means that pupils do play outside under no parental care. If this type of activity on the part of children are not being regulated, children will spend all their time playing in their neighbourhood.

When asked what chores do they perform to help their parents, Four of the pupils stated that they do perform household chores in the house. Household chores such as helping mothers to cook, washing of utensils, sweeping e.t.c. CH 3 (female and 9 years) for example remarked this;

> *I wash bowls, sweep, fetch water, help my mother to cook and wash my clothes.*

When asked whether they engage their children in performing household chores, four of the parents also confirmed that their children assists them in performing some duties in the house. These chores includes cook, washing of utensils, sweeping e.t.c. PT 3 for example remarked this;

She does perform all the household chores like sweeping, food preparation, washing utensils.

This implies that pupils do perform household chores assigned to them by their parents. Letting kids to perform household chores is a form of informal education given to them. This enable them to live effectively in future because no one will be willing to live with a man or woman who cannot perform petty house hold chores. But the question to ask is do these chores affect pupils learning in the house? Four pupils stated that the house hold chores they do, do not affect the time they use to do their homework or learn. CH 3 (female and 9 years) for example remarked that:

The work I do not affect the time I use to learn. My parents have planned my time for me.

Also, 4 parents also confirmed that they allow their children to learn or do their homework when time is due for them to do it. PT 3 for example remarked this:

She does her homework and learn before doing these household chores.

This implies that the time pupils use to do these household chores do not affect the time they use to learn. Also parents should learn to plan pupils' time for them. Children from poor family settings combine schooling and other activities such as household chores, farm work, work outside homes, and family business (Moyi, 2011). Moyi points out that most of the students who work and attend school may be at a disadvantage because this constitutes educational inequality; learners who combine schooling and work and those who do not. Studies have shown that children are engaged in domestic chores, often to the detriment of their education (Kadenyi & Kamunyu, 2006: FAWE, 2003; Ayoo, 2002). Working prevents children from attending schools, reduces study time or leads to fatigue thereby reducing children's concentration and learning.

When asked whether they do work to take care of themselves, five of the pupils stated that they do not engage in any work to cater for themselves. CH 1 (male and 8 years) for example remarked this:

I do not work to take care of myself.

CH 2 (female and 10 years) for also has this to say;

I am not allowed to work to take care of myself, I wish to mine for money but I am not allowed.

Five parents also confirmed that their wards are not engaged in any activity that earns them money to take care of themselves. PT 1 for example remarked this;

I do not allow him to work though there are avenues for him but he is not allowed. I don't have money but will not allow him to go to 'galamsey' to take care for himself. If he is allowed, he will never take his education serious.

PT 2 for example remarked this;

I do not allow him to be at the mines to work, not even to sell because most of the boys into galamsey are drug addicts. I do not my child to be school dropout.

This implies that pupils do not engage economic activity to take care of themselves. Pupils engaging in other forms of economic activity diverts their attention from formal education to the money they get from there. Also the fear of being introduced to drugs sis an issue why parents do not allow their children to be engaged in economic activities to take care of themselves. When people are allowed to work, much attention will be spent on the work leaving their academic work hanging.

Children who are introduced to work tends to perform poorly of care is not taken. Other scholars have also reported that the fact that a child is working increases the probability of failing a grade (examination or grade repetition) and even dropping out of school. Yet some other studies have corroborated the finding that child labour has adverse effects on student's reading competence (as assessed by parents) and mathematical skills (Akabayashi and Psacharopoulos 1999). This study investigated how child labour influences academic performance of the pupils.

When asked if they assist their parents at the work place, four of the pupils stated that they do assist their parents at their work places. While others work with them some go there to take care of your siblings for parents to work. This is done only on weekends and after closing. CH 3 (female 9 years) for example remarked this:

> *I help my mother on the farm during weekends. I take care of my younger brother.*

CH 5 (female and 10 years) also added this:

> *I do cook and send it to my mother at the 'galamsey' site during weekends and after closing from school.*

Four parents also confirmed that their children do assist them to work at their workplaces. This is done on weekends or after school. PT 3 for example remarked this:

> *She helps me on the farm on Saturdays. She takes care of her younger brother for me to work.*

PT 5 for example remarked this:

> *She brings me food when I go to mine. She does that on Saturdays and after school.*

This implies pupils are sent to where their parents work but are not allowed to work. This means pupils do assist parents to work. The work that they do should be

monitored to avoid affecting the time they will use to learn in the house and to attend school. Engaging children at the work place should be done hand in hand with school activities. Their engagement should not hinder their academic work and learning. Reeves (2009) assert that economic activities of parents may create problems for day students arising from a lot of work at home. According to Scharff and Brady (2011), girls are expected to help their mothers with labor-intensive house-hold chores before going to school and therefore arrive to class late and exhausted. Because of such responsibilities, girls are less likely than boys to perform well (Holcomb & Hord, 2012). Most students, especially girls, are engaged in such activities as caring for their siblings when their parents are away, taking care of the sick, and attending to traditional rituals, funerals, and other celebrations.

When asked the kind of household gadgets they have in their various homes, Five of the pupils stated that they have television in their houses which they watch. CH 1 (male, 8 years) for example remarked this:

I watch television in the house

CH 3 (female, 9 years) for example remarked this:

I watch TV, I do that after learning and doing my homework

CH 6 (male, 8 years) for example remarked this:

I do watch television so I am always indoors

Five of the parents confirmed that they do have television in the house and their children are allowed to watch. PT 6 for example remarked this;

TV, he can watch and play till you call him to come and eat.

PT 1 for example also remarked this;

I have Television, my children do watch, it worries me because they spent all their time at home watching unnecessary programs.

This implies that there are household gadgets like television which pupils watch. The rate at which children watch television and the kind of programs they watch should be keenly monitored by parents. There are programs these media houses show which are not children friendly. It is therefore responsibility of parents to regulate the rate children watch television in the house. As the adage goes, there is time for everything, so parents should plan the use of time for pupils in the house. Also parents must monitor their children in the house to be abreast with the kind of television programs they watch. Parents monitor and supervise their adolescents' schedules, peer associations, activities, and physical where about. Effective monitoring requires that parents be involved in the lives of adolescents and maintain clear expectations about appropriate activities, acceptable peers, and places where they can and cannot go (Barber, Olson & Shagle 1994). Adolescents whose parents fail to monitor their activities are likely to be involved in antisocial behaviour, delinquency, drug use and early sexuality (Barber, Oslen, & Shagle 1994). Parental punitiveness refers to the use of force to influence children's behavior and qualities, either through spanking, slapping or other forms of physical force or through nagging, name-calling or yelling (Turner & Finkelhor 1996).

When asked whether they have recreational facilities in their various communities, 6 pupils stated that there are no place with well-equipped recreational facilities in their neighbourhood. Five of them stated that they do play with friends outside. CH 3 (female, 9 years) for example remarked this;

I do collect empty cans and play with it. I do that with friends

All parents confirmed that though there are no recreational facilities in their neighbourhood, their children play with their colleagues outside. PT 3 for example remarked this;

> *She goes out to play with friends. I see her gathering empty cans and depicting like cooking for the family.*

This implies that pupils go out to play in their neighbourhood. Though their environment lacks modern recreational facilities, they find other traditional methods of playing with their peers. Either playing soccer, riding bicycle, drama (nkuro), e.t.c. These study findings so far indicate variations in students' achievement due to geographical location, resources and availability of technology of the residential areas. Brown (2003) asserts that the low level performing students usually come from the rural areas that experience lack of conducive environment for learning. Although rural students typically achieve less than their counterparts from the urban areas, variations do exist between one area and the other (Graham, 2012). The gap in the variation of students' academic achievement may depend on the existing differences in both the urban and rural areas. Brown (2003) mention that achievement gap between urban and rural areas did exist as a result of their peculiar differences. But while some students from rural areas had above average, others are just an average (Brown, 2003). It is important to keep in mind that both urban and rural students might differ from one another on the basis of the peculiarities in their residential settings. Students can generally do well in examination scores as well as or do better than one another depending on the level of influence of their geographical and demographic factors and the educational opportunities given by the environment (Loveless, 2003; Williams, 2003). The fact is that parents should not allow their children to play all time but rather

plan their time for them, identify the type of friends their children moves with. Parents monitor and supervise their adolescents' schedules, peer associations, activities, and physical where about. Effective monitoring requires that parents be involved in the lives of adolescents and maintain clear expectations about appropriate activities, acceptable peers, and places where they can and cannot go (Barber, Olson & Shagle 1994). Adolescents whose parents fail to monitor their activities are likely to be involved in antisocial behaviour, delinquency, drug use and early sexuality (Barber, Oslen, & Shagle 1994). Parental punitiveness refers to the use of force to influence children's behavior and qualities, either through spanking, slapping or other forms of physical force or through nagging, name-calling or yelling (Turner & Finkelhor 1996).

From the above discussions, it can be deduced that, pupils do perform household chores and their time was planned by parents in order that these chores do not affect the time they will use to learn. It was also revealed that pupils do not work to take care of themselves. Pupils do assist parents at their work places and that was done during Saturdays. Also, there were no recreation facilities in their neighbourhood but pupils do find other ways to play with their friends outside. This play outside were not monitored by parents. Also, pupils were allowed to watch television.

From the above, household chores and house structure can be represented diagrammatically as follows;

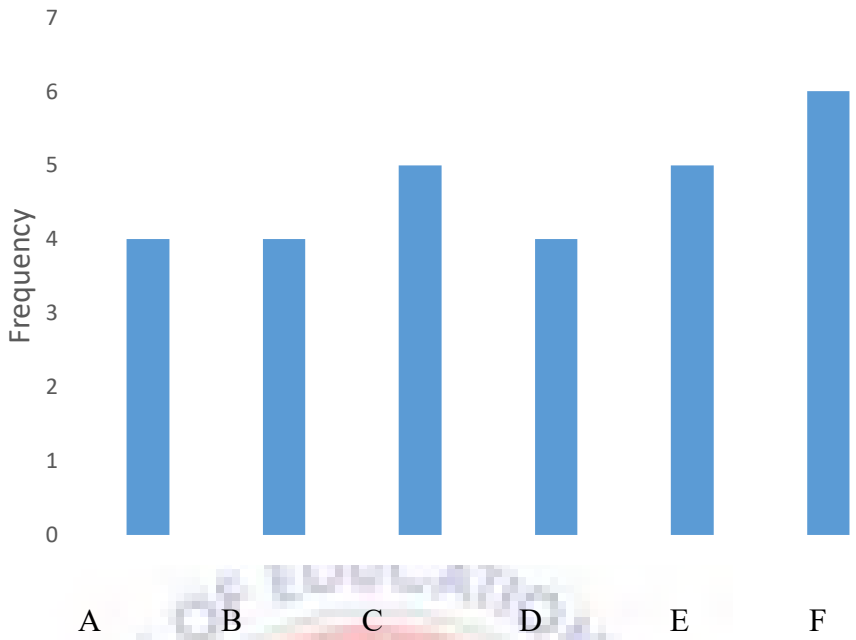

Figure 6: House structure and household chores (*Source: Field work, 2019)*

Key

Horizontal Axis

A – performance of household chores

B – household chores affecting their learning of mathematics in the house

C – Do not engage in any form of work to cater for themselves

D – Assisting parents at the workplace

E – having television in their homes

F – play with friends outside

4.6 Findings from the Study

The following were findings obtained from the study;

1. Pupils were given mathematics homeworks and parents reminded them to do it.

2. Pupils were assisted to do their homeworks by their elder siblings for the fear of being punished at school.
3. Pupils learn mathematics in the house under no supervision from parents.
4. No teacher is being employed by parents to teach the pupils mathematics in the house.
5. Pupils were motivated extrinsically to learn by parents.
6. Parents used for the study were illiterates.
7. Elder siblings and external relatives interprets terminal reports to pupils when they come on vacations.
8. Pupils are motivated to exceed the level their parents reached on the academic level.
9. Pupils hail from poor homes because parents were subsistence farmers.
10. Pupils do not meet parents at home after closing from school so pupils could play around till their parents come home from their farms.
11. Parents did not provide their children with mathematics textbooks but provided them with exercise books citing reasons as education was free hence the government should supply textbooks, lack of finances to procure the textbooks since they were poor.
12. Parents did pay Parent Teacher Association dues and examinations fees charged by the school.
13. Pupils were given One Ghana Cedi as their money for daily upkeep.
14. Pupils performed household chores and the chores they performed do not affect the time they will use to do their mathematics homework and learning.
15. Pupils did not work to take care of themselves.
16. Pupils do assist parents at their work places. This was done on Saturdays.

17. Pupils watch television in the house and that was the only household gadget used for entertainment. There was no regulation by parents as to how pupils watch television.
18. Pupils play with friends outside. These activities were not being regulated.

4.7 Summary

To sum up, parental supervisory roles stated in this work accounted for the good performance of 2 pupils (CH 3 and CH 6) and also accounted for the poor performance of CH 4. Also, parental educational status accounted for the good performance of CH 6 since the level of education her mother reached was SHS and she was able to assist her child learning mathematics in the house. On the other hand since children saw the suffering of their parents hence saw the relevance of exceeding them on the academic calendar. Therefore the motivation to learn is being derived from their parents' educational status.

Parental financial status is a contributory factor to their performance in mathematics. Pupils were not bought textbooks, were given One Ghana Cedi as pocket money which is too small for feeding. To add, the job parents do was a contributory factor to their financial woes, since majority were uneducated, they ended up being subsistence farmers hence could not generate enough income to purchase textbooks for their wards, hire teachers to teach their children in the house.

Also, pupils' household chores and home environment is a contributory factory to pupils' academic performance in mathematics because, parents must monitor children to learn in the house but pupils are allowed to play a lot outside with friends and watch television without monitoring. These environmental factors if care not taken accounts for pupils' poor performance in mathematics, for instance, CH 4 and CH 5.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.0 Overview

This chapter presents summary of research findings, conclusions, limitations, recommendations and suggestions for further research.

5.1 Summary

The study was sought to investigate the home differences on pupils' academic achievement in mathematics in the Amansie West District of the Ashanti Region of the Republic of Ghana. The study made use of case study.

The population for the study was basic school pupils in Amansie West District. A sample of 12 respondents was used comprising 6 pupils and their respective 6 parents. The researcher made use convenience and purposive sampling techniques to obtain the schools and pupils.

The researcher made use of interview and observation as the instrument for the study. Data obtained were analysed qualitatively using thematic approach and with images.

5.2 Major findings

The findings of the study have been presented in relation to the research questions that were outlined by the researcher. It has been done in themes and presented as follows.

5.2.1 Parental Supervisory Roles

1. Pupils were given mathematics home works and parents remind them to do it.

2. Pupils were assisted to do their home works by their elder siblings for the fear of being punished at school.
3. Pupils learn mathematics in the house under no supervision from parents.
4. No teacher is being employed by parents to teach the pupils mathematics in the house.
5. Pupils were motivated extrinsically to learn by parents.

Parental supervisory roles contributed to the performance of pupils in mathematics. From the study it account for the good performance of CH 3 and CH 6. Also, it accounted for the poor performance of pupils (CH 2, CH 4 and CH 5) in mathematics.

5.2.2 Parents' Academic Status

1. Four parents used for the study could not read or write.
2. Elder siblings and external relatives interpret terminal reports to pupils when they come on vacations.
3. Pupils are being motivated by the level of education of parents had to exceed the level their parents reached on the academic ladder.

Though 4 parents could neither read nor write that did not deter their children to aspire for higher education. This contributed to the good performance of CH 1. But for CH 2, CH 4 and CH 5, their performance in mathematics was very poor. Hence parental academic status contributed to the poor performance of 3 pupils and contributed to the good performance of 3 pupils in mathematics. Also the academic status of parents motivated their wards to learn mathematics.

5.2.3 Parents' Financial Status

1. Five of the pupils hail from poor homes because 3 parents were subsistence farmers, one illegal miner, one school feeding cook. The last pupil's (CH 6) mother was a trader.
2. Pupils do not meet parents at home after closing from school so pupils could play around till their parents come home from their farms.
3. Parents did not provide their children with mathematics textbooks but provided them with exercise books citing reasons as education was free hence the government should supply textbooks, lack of finances to procure the textbooks since they were poor.
4. Parents did pay Parent teacher association dues and exams fees charged by the school.
5. Pupils were given One Ghana Cedi as their money for daily upkeep.

From the above findings, it can be concluded that parental financial status is a contributory factor to pupils' academic performance in mathematics. This was due to the fact that parents were unable to procure the relevant textbooks for pupils to learn in the house which contributed to the poor performance of CH 2, CH 4 and CH 5. Though CH 6 was not from a poor home, he performed well. This was due to the fact that, he always meet her mother who assisted him to learn and do his mathematics homework.

5.2.4 Household Chores and Home Environment

1. Pupils performed household chores and the chores they performed do not affect the time they will use to do their mathematics homework and learning.
2. Pupils did not work to take care of themselves.
3. Pupils do assist parents at their work places. This was done on Saturdays.

4. Pupils watch television in the house and that was the only household gadget used for entertainment. There was no regulation by parents as to how pupils watch television.
5. Pupils play with friends outside. These activities were not being regulated.

Household chores and pupils home environment affects pupils learning of mathematics. This accounted for the poor performance of some of the participants in the study (CH4, CH 2 and CH 5). For the others, their performance was better because, their activities in the house were regulated by their parents.

5.3 Conclusions

Parental supervision on pupils' learning in the house encourages pupils to revise what they were taught at school. Parents assisting and reminding pupils to do their homework depicts the level of seriousness parents attach to the wards' education. However, the situation in this study was otherwise, parents were afraid pupils will be punished if they fail to do their homework. Also, supervising children to learn in the house let parents know what their wards learn in school but if no supervision is done, children will learn different things leaving what their teachers taught them. However, the situation in this study was that parents did not supervise their children's learning of mathematics in the house hence the poor performance of some of the respondents. In addition to this, parents do not act like teachers for their children, neither do they employ the services of teachers to teach their children mathematics in the house. The only place children are taught mathematics is the school. Children who are taught at home tend to understand concepts better than those taught only in school because these children receives double tuition on the same concepts. It is therefore concluded that pupils did not receive extra tuition in the house hence the poor performance of some of the respondents.

Parents' educational status affects pupils' academic performance. As parents in this study were illiterates, it has motivated their wards to attend school to exceed the level that their parents reached in order to live well in future. Uneducated parents should contact other relatives who are educated to discuss with them important issues regarding their wards education and make decisions on them.

Life cannot be lived well without finances. Before an individual can receive the best of education, he or she must be financially sound. In this study, respondents were subsistence farmers hence with low income level. They tried their best to pay for other bills charged by the school their wards were attending, gave them money for their upkeep though the money, to the researcher, was small. Also parents were not purchasing mathematics textbooks for their children. This situation will always help children to rely only on the notes given to them by their teachers. Also due to the nature of the work parents do, pupils do not meet them in the house after closing from school.

Household chores and home environment are critical factors in the moulding of children. The community a child lives in defines him. When children are left to play a lot with friends outside without regulating their play, they suffer academically because, they will not get enough time to revise what was taught in school that day. The study revealed that pupils play a lot in the neighbourhood with friends. This action should be taken care of because it has accounted for the poor performance of some pupils. House hold chores like washing of clothes and utensils, sweeping, cooking must be planned so that it does not affect pupils mathematics learning in the various homes. The study revealed that pupils do household chores but since parents have regulated time for such activity it does not affect the period they use to do their homework. Pupils do watch television but parents should regulate how they watch and the programmes that they have been watching since not all programmes on TV screens are not meant for children.

To conclude, home differences of pupils account for their academic performance. Though pupils are exposed to the same curriculum and instructional strategies, the ability to perform well or weakly depends solely on the child. The home can play a vital role in children's academic performance.

5.4 Limitation

The target population for the study was 23,104 respondents and out of this number, 6 representing 0.025 percent was used as the sample for the study. As a result of this small sample size, it would be difficult to generalize the results.

Limited time and limited cash resources were a major challenge hence a limitation to the study. However, the researcher believes that the validity of the information collected is correct despite the above limitations.

5.5 Recommendations

From the findings of study it is recommended that:

1. Parents should assist pupils to learn at home, assist them to do their homework. Parents can delegate relatives or friends to do that if they are uneducated. Parents should supervise pupils learning in the house.
2. Parents should engage in lucrative jobs in order to take good care of their children. Parents should provide an avenue to take adequate care of their children education so that proper support and encouragement would be given to them accordingly.
3. Study findings showed that the parent financial status affected the provision of learning resources, employing the services of teachers to teach pupils in the house were factors that influence the pupils' academic performance. There should be sensitization for the need of parents to finance their wards learning of

mathematics in the house by providing them with textbooks and other relevant materials needed to learn the subject.

4. The study found out that the education of parents influenced the student's academic performance. Therefore the head teachers should hold meetings with parents that will address the influence of parents' education on their students' academic performance and how to solve the problems. Adult education should be initiated by the government to help those parents that are not well educated to encourage them to get fully involved in their children's academic matters in the house so that they can assist them to learn and do their homework.
5. Parents should provide a conducive environment for children to learn at home. They also have to ensure that the environment is quite and that nothing or no one distracts children while doing their school work. The school stakeholders such as parents, head teacher and teachers should work in collaboration to provide learners with best learning environment that encourage good academic outcome.
6. Parents should regulate the activities of children in the house. They should plan their time for them; for instance, time for eating, learning, doing assignments, time for watching television, time for assisting parents in doing house chores etc.

5.6 Suggestions for Further Studies

The researcher suggests the following areas to be further researched;

i. A study on the impact of capitation grants on public basic schools in Ghana.
ii. A quantitative research should be conducted on home factors of basic school pupils and their academic achievement in mathematics in order to generalize the findings of the study.

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APPENDICES

APPENDIX A

ENROLMENT FIGURES OF AMANSIE WEST DISTRICT

GHANA EDUCATION SERVICE

AMANSIE WEST

In case of reply the number and
the date of this letter should be quoted
Email: amansiewestdeo@gmail.com
Our Ref: GES/ASH/AWD/ 6/2/VOL 5/209
Your Ref: .....

Republic of Ghana

District Office
P.O.BOX 14
Manso Nkwanta,(Ashanti)

25th March, 2019.

ANDREWS GYAU,
DEPARTMENT OF BASIC EDUCATION,
UNIVERSITY OF EDUCATION, WINNEBA,
WINNEBA, C/R.

RE: REQUEST FOR PUPILS' ENROLMENT

I refer to your letter dated 1st March, 2019 and hereby present to you pupils enrolment in the district as requested.

LEVEL	BOYS	GIRLS	TOTAL
KG	2,710	2,716	5,426
PRIMARY	6,296	6,058	12,354
JHS	2,783	2,541	5,324
TOTAL	**11,789**	**11,315**	**23,104**

Manso Nkwanta circuit class three enrolment figures are as follows;

BOYS	GIRLS	TOTAL
295	303	598

Also, the class three enrolment figures for the following schools are as follows;

SCHOOL	BOYS	GIRLS	TOTAL
Manso Nkwanta D/A	24	36	60
Suntreso D/A	18	17	35
Bebuabou-Essubinja D/A	24	15	39
TOTAL	**66**	**68**	**134**

Thank you.

.....
KWABENA OWUSU (MR)
(DISTRICT DIRECTOR)

APPENDIX B

INTERVIEW GUIDE FOR PUPILS

Parental supervisory roles

1. Are you being giving homework at school?
2. Who reminds you to do your mathematics homework?

3. Who supervises you to do your mathematics homework?
4. Do you have a teacher who teaches at home?
5. What subjects do they teach you?
6. Who tells you to work hard in school?

Parental Educational background

7. Can your parents read and write?
8. Who interprets terminal report to you?
9. Do your parents educational level encourages you to learn?
10. Do your parents teach you mathematics in the house?

Parental socio-economic status

11. What work does your parent do?
12. How often do they stay home after work?
13. Are your parents able to provide you with mathematics educational materials?
14. Do your parents pay other bills necessary for your stay in school?
15. Do your parents give you upkeep money for school?

House structure and home chores

16. What do you do in the house after school and off school hours?
17. Do your home chores affect your study in the house?
18. Do you work after school to take of yourself? Name the kind of work you involve yourself.
19. Do you support your parents to work after school?
20. What household items do have in your house?
21. Do you have well equipped recreational facility in your homes or community?

APPENDIX C

INTERVIEW GUIDE FOR PARENTS

Parental supervisory roles

1. How often do you assist your wards to do their homework?
2. Do you involve yourself in your wards learning of mathematics at home?
3. Through what means do you supervise or monitor pupils' learning of mathematics in the house?
4. Have you employed a private teacher for your wards in the house?
5. Why do you assist your pupils to learn?

6. Why do you delegate elderly siblings to supervise?

Parental educational status

7. What is your level of education?
8. Who interprets your wards results to him/her in the house?
9. Do you have interest in wards exceeding your educational level?
10. Do you teach your child mathematics in the house?

Parental socio-economic status

11. What major economic activities do you usually carry out?
12. Does your ward meet you at home after school?
13. How do you support your wards mathematics education?
14. Do you give money to your child for his/her upkeep?
15. Do you pay other bills charged by the school?

House structure and home chores

16. What activities do you involve your children into in the house?
17. What household chores do you assign them to?
18. At what time after and before school do they perform those duties you assign them?
19. What household items do have in your house?
20. Do you involve your children to join you at your work place after school?
21. Do these activities affect their learning at home?

APPENDIX D

INTRODUCTORY LETTER FROM THE DEPARTMENT OF BASIC EDUCATION, UEW

UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF BASIC EDUCATION
P O Box 25, Winneba, Ghana
beducation@uew.edu.gh
+233 (050) 9212015

Date: November 1, 2018

The Director
District Education Directorate
Amansie West District Assembly
Manso Nkwanta – Ash/R

Dear Sir /Madam,

LETTER OF INTRODUCTION

We forward to you, a letter from Mr. Andrews Gyau, a second year M.Phil student of the Department of Basic Education, University of Education, Winneba, with registration number 8170030005.

Mr. Andrews Gyau is to carry out a research on the Topic *"Home Difference of Basic School Pupils in the Amansie West District and Academic Achievements in Mathematics*

We would be grateful if permission is granted him to carry out his studies in the District.

Thank you.

SAKINA ACQUAH (MRS.)
(Ag. Head of Department)

www.uew.edu.gh

APPENDIX E

PERMISSION LETTER FROM THE DISTRICT EDUCATION OFFICE

GHANA EDUCATION SERVICE

AMANSIE WEST

In case of reply the number and thedate of this letter should be quoted
Email: amansiewestdeo@gmail.com

Our Ref: GES/ASH/AWD/FN.2177
Your Ref:.....

Republic of Ghana

District Office,
P.O.BOX 14,
Manso Nkwanta, (Ashanti),

11th March, 2019.

GYAU ANDREWS

MANSO NKWANTA D/A PRIMARY SCHOOL

AMANSIE WEST.

PPERMISSION TO CONDUCT RESEARCH.

RE: GYAU ANDREWS (8170030005).

The Management of Ghana Education Service, Amansie West District acknowledges the receipt of your letter dated 1st March, 2019 seeking for permission to conduct research on the topic '***Home Differences and Pupils' Academic Achievement in Mathematics in the Amansie West District of Ghana'*** in the following schools in the Manso Nkwanta Circuit of Amansie West District Education Directorate:

- **Suntreso D/A Primary School**
- **Manso Nkwanta D/A Primary Schools**
- **Bebuabou/Essubinja D/A Primary School**

We hereby grant you the permission to conduct the said research in the selected schools. Management believes that findings of your research, when completed, will be of immense beneficial in solving the specific problems with teaching and learning of Mathematics in Ghana in general and Amansie West District in particular.

We entreat you to put measures in place to ensure that contact and instructional hours are not compromised. The office should be furnished with the full report of your research when completed.

Management wishes you a successful research.

KWABENA OWUSU (MR)

(DISTRICT DIRECTOR)

APPENDIX F

SAMPLE OF CONSENT FORM FOR PUPILS

Dear Parent, as part of your child's performance in mathematics, he/she has been selected to partake in an on-going study on home differences and pupils academic achievement in mathematics. I write to seek your consent for your ward and you to be able to partake in the satudy. The researcher will visit you at your home to conduct an interview and observe your child.

…….
ANDREWS GYAU
(RESEARCHER)

……
SIGNATURE OF PARENT