

**AN INVESTIGATION ON PERFORMANCE OF MATHEMATICS IN MALERA  
SUB COUNTY, BUKEDEA DISTRICT**

**BY**

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**DECLARATION**

I, Odeke Patrick strongly affirm that, this is true work of my hands and has never been submitted to any institution of higher learning for the award of a grade, certificate, Diploma or degree or equivalence

**ODEKE PATRICK**

Sign:  .....

Date: 15.10.2017 .....

**APPROVAL**

This is to certify that this research report was carried out by the student under my supervision as university supervisor.

**OKIROR GODFREY**



Date.....15.10.2017.....

## **DEDICATION**

I do have to dedicate this research to my wife Ms Adeke Stella Mary, my children; Opolot John, Opio, Odeke Isaac Patrick, Abore Martha, Isale Alibina, Adong Stella Mikali, Akello Caroline, for the support they gave to me.

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I also give a pot of thanks to my course mates for the entire support and encouragement that she gave me at time when I could have given up.

## LIST OF ACRONYMS

MoES	Ministry of Education and Sports
PLE	Primary Living Examinations
UBOS	Uganda Bureau of Statistics
UNEB	Uganda National Examinations Board
UPE	Universal Primary Education.

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## ABSTRACT

This study was carried out under the topic “An investigation of Pupils’ performance in mathematics in Malera Sub County, Bukedea district”. The objectives that guided this study are;

- (1) to investigate the teaching methods used by teachers of mathematics, ( ii) to investigate the presence of teaching learning materials for mathematics ( iii) to find out the learning materials possessed by learners of mathematics, (iv)To explore the contributing factor towards poor performance in mathematics, ( iv) to suggest strategies that may be of useful importance in improving pupils’ performance in mathematics

The research design used in this research is qualitative and quantitative.

**The findings of the study are;** Most schools use talk and chalk method while practical method was not commonly used. It also indicates that real objectives were not widely used. This implies that teachers of mathematics should adopt good teaching methods of mathematics and also motivate learners.

**The conclusion of this study is based on school factors,** socio-economic factors and pupils’ negative attitude towards mathematics, among others. meaning that these were found to have greatly contributed to poor performance in mathematics by the pupils.

**The recommendations of the study are;**

**To the ministry of Education, sports and technology;** the ministry of education should put more attention to schools in rural areas since most of these schools are not well equipped for pupils to learn successfully.

**To the parents,** they should pay the required school fund timely so as to avoid embarrassment of their children by being sent home frequently.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

This chapter provides the background of the study, the Statement of the problem, Objectives of the study, the Hypothesis, Scope, Significance, research questions, purpose of the study

#### **1.1 Background of the Study**

This was guided by, historical perspective, theoretical perspective, conceptual perspective, and contextual perspective

##### **1.1.1 Historical perspective**

Globally, there has been a serious challenge to many learners in terms of their academic performance. This is associated to the nature of promotional examinations that are set in order to prove the pupils' abilities to grasp things in class. It's not a rare scenario to find out that some pupils fail to perform as expected (UNESCO, 2014)

In Uganda, data on the causes of poor performance in community polytechnic certificate examinations and found out; Lack of clear curriculum, Under qualified instructors with less experience in teaching in the Community Polytechnics (CPs), Poor methodology in the teaching-learning process, Poor quality pupils admitted, Negative attitude of the pupils, parents/community towards CPs and difficult questions in the papers.

The introduction of Universal Primary Education (UPE), increased enrollment in primary schools from 3 million pupils in 1997 when the program was first introduced for four pupils per family but later opened to every one of school going age or interested adults to about 7.5 million in 2003 and over 7.6 million in 2005/06 (UNHS, UBOS 2005/6) This suggests that Uganda is on the verge of attaining the UPE Millennium Development Goals (MDG) in as far as access to education is concerned. While a lot of progress has been made by government in increasing spending on education and specifically primary education, there are still major challenges in respect to realizing the full benefits of UPE. The Ugandan government is committed to UPE, as reflected by the improved budgetary allocations to the education sector. For instance, whereas in

1992/93 education comprised 12% of the total government expenditure, by 1998/99 it had reached 25% and stood at 23.3% in 2004/05. In the 2007/8 national budget, government allocated a total sum of Uganda Shillings 417.7 billion to finance the primary and pre-primary sector. Important to note is that 342.5 billion shillings was expected to be spent on paying salaries of the 129,000 teachers in UPE, which leaves only about 75.2 billion to implement other UPE programs.

However, much as primary school enrolment has been a success, the concern now is with regard to the internal efficiency of primary education that is the ability to retain pupils until they graduate from primary school. The incidence of pupils dropping out of school is common in primary six and primary five which is 34.9 percent and 22.1 percent respectively (NSDS, 2004). The comprehensive evaluation of basic education in Uganda report (2005) asserted that UPE dropout has escalated from 4.7% in 2002 to 6.1% in 2005. It further notes that of the Net Enrollment Ratio (NER) for boys and girls is 93.01%; however 55% of boys and 54.6% of girls reach primary four, while 31.2% of the boys and 27.7% of girls reach primary seven.

Retention in primary education on the whole is low and exhibits gender disparity. Fifty three percent (53%) of boys and 42% of girls complete primary school education (2006). Enrolment figures in primary school education also show gender disparities with only 1/3 of girls who enrolled in primary school continuing to the age of 18 compared to 1/2 of the boys.

Besides limited financing, about 1.3 million children aged 6 to 12 years (school going age) are still excluded from UPE (Beekunda 2007) and therefore from enjoyment of their right to education. Most of the children excluded from UPE are Orphans and Vulnerable Children and those living in chronic poverty. This according to studies has been attributed to the failure by poor parents to raise/meet additional non-tuition costs/ requirements related to school attendance such as provision of uniforms, scholastic materials, and examination fees, among others.

The cost implications of so many children missing out on education are quite considerable, and such children will be more likely to fall into exploitative labor, or be unable to contribute to national economic growth in the future. Given also that 50% of the Orphans and Vulnerable Children under the age of 18 years are under the care of older persons whose capacity to subsist is rather limited further sinks families and households into deeper poverty. High drop-out rates

make the situation worse, especially in rural areas, where the majority of those who are trapped in poverty line. Close to 50% of pupils who enroll in Primary One do not complete Primary Seven in the set timeframe for example, only 22% of those who enrolled in Primary One in 1997 registered for Primary Leaving Examinations in 2003 (CDI 2007), a situation that has not improved much in recent years. According to the 2007 Primary Leaving Examination (PLE) results, only 444,019 of the 890,997 who enrolled in 2001 sat for the examinations in 2007 (MoES report, 2008)

Locally the problem of mathematics has thrived in several primary schools in Malera Sub County and the entire district of Bukedea. A majority of pupils who fail in Primary living examinations get their fate because of majorly mathematics and English

### **1.1.2 Theoretical perspective**

According to Morris and Arore (1992), teachers of mathematics at all levels reverted to an emphasis on facts and skills in mathematics (through drill) became very common in many classrooms. It was monkey see, monkey do mathematics, with little or no reason given. Busbridge and Womack (1991) note that teachers explain a rule on the blackboard, give some examples of the rule in operation, and then set the class many more examples and exercises to do for themselves. They also noted that teachers believe that understanding would eventually come through sufficient practice. However, research has shown that drill alone cannot even guarantee recording of the learned theories. Bergeson, et al., (2000) contend that drill with a fact or skill does not guarantee immediate recall. They posit that pupil competence with a mathematical skill does necessitate extensive practice. Drill alone contributes little or nothing to growth in a pupil's mathematical understanding. There are a number of principles that appear frequently in any literature on effective mathematics instruction. These include a problem-oriented learning, focusing on meaning, whole-class discussion and small group-work. Effective teaching requires continuing efforts to learn and improve.

### 1.1.3 Conceptual perspective

The study is based on the two concepts i.e. mathematics and performance

According to the study, the researcher adopted the following definitions to suit the research objectives;

**Mathematics** is defined as the science of numbers and their operations, interrelations, combinations, generalizations, and abstractions and of space configurations and their structure, measurement, transformations, and generalizations Algebra, arithmetic, calculus, geometry, and trigonometry are branches of mathematics.

**Performance** refers to the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed.

In a contract, performance is deemed to be the fulfillment of an obligation, in a manner that releases the performer from all liabilities under the contract.

The researcher is based more in academic performance meaning that *performance is how best the pupil can excel in mathematics. If it was grading, the best performer should have excelled with a distinction, moderate performers would score credits while poor performers would get failures.*

### 1.1.4 Contextual perspective

Following the definitions in 1.1.3 above, performance and mathematics are two sides of the same coin in all levels. There is an agreement that one cannot perform well if he/she does not score well in mathematics hence having good grades in all subjects like English, Science and Social studies without passing mathematics is as good as failing everything

## 1.2 Statement of the problem

Mathematic is one of the two essential subject cutting across all primary and secondary schools, here is a high demand for pupils to pass mathematics and English in order to qualify to join any secondary school for O level without which, the pupil is expected to re-sit and obtain good grades in mathematics and English. There is also a high demand for teachers of mathematics than



teachers of other subjects hence a need to put more attention in teaching and learning mathematics in order to compete favorably in the competitive world

The government has availed resources for education sector over the last ten years to train and increase salaries to teachers of mathematics however, there are still escalating poor academic performance especially in mathematics subject. (UNEB, 2011 PLE report). Basing on this, the researcher therefore seeks to primary schools in Malera sub- county Bukedea district.

The government has also tried to train teachers and a few specialize in mathematics but still learners continue to perform poorly and yet mathematics is the key in day to day living as follows;

Mathematics makes our life orderly and prevents chaos

Mathematics nurtures one to have the power of reasoning, creativity, abstract and critical thinking, problem solving ability and even effective communication skills

It's a cradle of all creation without which, the world cannot move an inch. Be it a cook, a farmer, a carpenter, a mechanic, a doctor, a musician or a magician, everyone needs mathematics in their day to day life.

Mathematics is essential in many fields, including natural science, engineering, medicine, finance and the social sciences. Applied mathematics has led to entirely new mathematical disciplines, such as statistics and game theory. Mathematicians also engage in pure mathematics, or mathematics for its own sake, without having any application in mind. There is no clear line separating pure and applied mathematics, and practical applications for what began as pure mathematics are often discovered.

However, several researches have been centered in the existence of the problem but there is still little information on the factors leading to the poor performance of Mathematics among pupils. Available official report from Uganda National Examination Board (UNEB) indicates that the performance in mathematics still demands a lot (2011 PLE report). Basing on this, the researcher therefore seeks to find out factors leading to poor performance of mathematics among primary schools in Malera sub- county Bukedea district.

Worst still, there is no stipulated information concerning this research topic in Malera Sub County. Therefore, there is need to explore more about the causes, effects and the generate possible solutions to the problems of poor performance in Mathematics among the pupils in selected primary schools and this can only be done through research and information should be obtained direct from the people surrounded by this problems in public primary schools of Malera Sub County.

### **1.3 Purpose of the study**

The purpose of the study is to explore more about the causes, the effects of poor performance in mathematics among the pupils in the area of study and generate possible solutions to the problem.

### **1.4 Objectives of the study**

#### **1.4.1. General Objective**

To explore the factors contributing to poor performance in mathematics among the pupils in selected primary schools of Malera sub County

#### **1.4.2 Specific objectives**

- (2) To investigate the teaching methods used by teachers of mathematics.
- (3) To investigate the presence of teaching learning materials for mathematics
- (4) To find out the learning materials possessed by learners of mathematics
- (5) To explore the contributing factor towards poor performance in mathematics
- (6) To suggest strategies that may be of useful importance in improving pupils' performance in mathematics

### **1.5 Research questions**

- i. Are required teaching and learning materials available?
- ii. Which methods do the teachers of mathematics use for teaching mathematics?
- iii. What are the causes of poor performance in mathematics among the pupils in the area of study?
- iv. What steps can be taken to solve the problem of poor performance of mathematics

## **1.6 Scope of the study**

This shows the boundaries in terms of the content, time and geographical scope of the study

### **1.6.1 Geographical scope**

The study was conducted in Malera sub-county which is located in the North East of Bukedea district. It is bordered by Kolir sub-county on South, Bukedea sub-county on the West, a large swamp which divides Bukedea and Nakapiripirit on the East and Kumi sub-county on the North. It's dominated by Iteso and a majority are supporters of the ruling government politically

### **1.6.2 Theoretical Scope**

According to Busbridge and Womack (1991), teachers explain a rule on the blackboard, give some examples of the rule in operation, and then set the class many more examples and exercises to do for themselves. They also noted that teachers believe that understanding would eventually come through sufficient practice.

### **1.6.3 Time scope**

The study covers a period of Ten years (10 years). From 2010 to 2019 this time is sufficient for the accomplishment of the study objectives.

### **1.6.4 Content scope**

The study will focus on the factors contributing to poor performance in Mathematics among the pupils in selected primary schools of Malera Sub County, Bukedea District, the teaching methods of the teachers and the procedures of assessment used by teachers, and the challenges teachers meet in the performance of their duties

This is because other writers have written basing on other parts of the country and on different topics but not in Malera Sub County.

## **1.7 Significance of the Study**

**To the audience:** The study will enable readers to widen their scope of knowledge in reference to poor performance in Mathematics among pupils hence the study is of useful importance for reference purposes in future.

**To the Ministry:** the study will provide monitoring and evaluation information about the teachers ability in implementation of educational activities in the country.

It will also help to identify the gaps and improve on the service delivery of teachers in educational institutions.

The ministry of local government, the study will give an insight on the teacher's attitude in the teaching profession.

The study will help the policy makers to develop policies relevant for the teaching profession.

To formulate decisions on education and administrative planning.

**To local community,** the study will help the parents to identify the requirements needed by both pupils and teachers to produce good results in their schools.

**To the future researchers:** this research will be important to them because it will be secondary data to them.

**To the researcher:** this is the requirement for the researcher to be awarded a bachelor's degree in education of Kampala International University.

**To the teaching staff:** the study will be useful for teachers and learners to improve in mathematics since the researcher will put a lump sum of recommendations for policy makers.

**Additionally,** the findings will help the researcher to widen his knowledge and attain an award of a bachelor's Degree in Education of Kampala International University.

**To future researchers,** this shall be a reference book for them to use as they work out studies related to this one.

**To the ministry of education, sports, science and technology,** the study will be an abstract to guide them on how to allocate resources equitably and also be considerate with science teachers especially teachers of mathematics as they have a great role in teaching mathematical concepts to the pupils

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

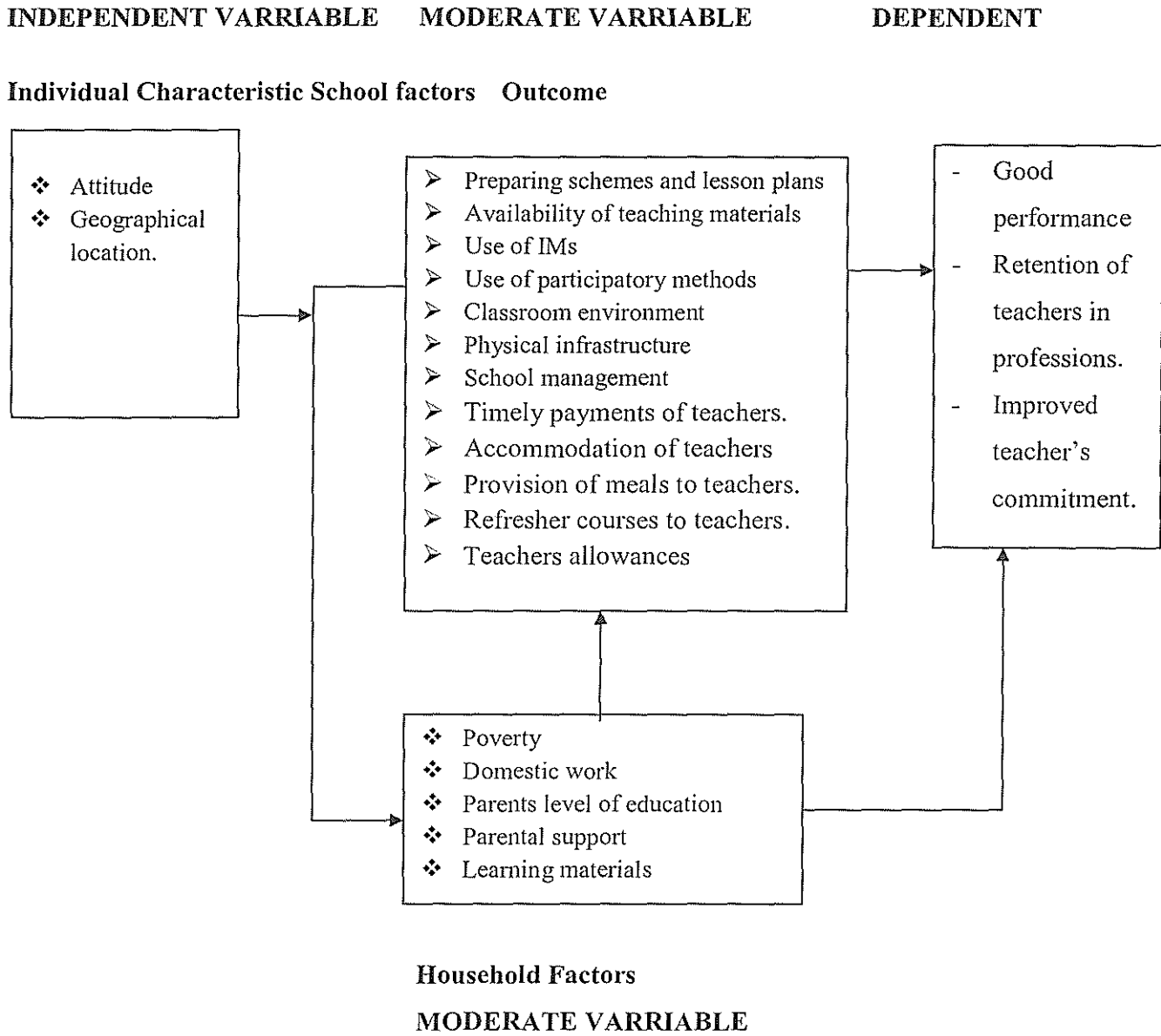
This chapter contains the related literature about the study topic. It covers the theoretical, conceptual framework and related studies

#### 2.2 Theoretical perspective

According to Morris and Arore (1992), teachers of mathematics at all levels reverted to an emphasis on facts and skills in mathematics (through drill) became very common in many classrooms. It was monkey see, monkey do mathematics, with little or no reason given. Busbridge and Womack (1991) note that teachers explain a rule on the blackboard, give some examples of the rule in operation, and then set the class many more examples and exercises to do for themselves. They also noted that teachers believe that understanding would eventually come through sufficient practice. However, research has shown that drill alone cannot even guarantee recording of the learned theories. Bergeson, et al., (2000) contend that drill with a fact or skill does not guarantee immediate recall. They posit that pupil competence with a mathematical skill does necessitate extensive practice. Drill alone contributes little or nothing to growth in a pupil's mathematical understanding. There are a number of principles that appear frequently in any literature on effective mathematics instruction. These include a problem-oriented learning, focusing on meaning, whole-class discussion and small group-work. Effective teaching requires continuing efforts to learn and improve.

**2.3 The conceptual frame work**

**Figure 1 Shows the conceptual frame work of the study.**



**Source: Researchers formulation 2017**

There is a serious relationship between the variables as illustrated above; the improvement of performance is dependent upon the pupils' individual characteristics, school environmental factors and pupils' household factors. The changes in the three variables can lead to a change in the outcome that is to say; good individual characteristics of pupils combined with the good school learning environment plus a supportive household leads an improvement in the performance of mathematics among the pupils of such status.

#### **2.4. Related Studies**

This includes a presentation related studies carried by several researchers in line with the study objectives. The Essence of Mathematics Education, the main goal of mathematics education is to promote pupils' learning of mathematics. It focuses on the content and the tools, methods and the approaches that facilitate the teaching/ learning activities. This makes mathematics education essentially practical and dynamic, necessitating new changes in teaching the subject. According to Busbridge and Womack (1991), there have been many changes in both the content and the style of mathematics teaching for the last thirty years. They note that modern methods made greater demands for visual and physical aids to help children understand concepts and processes. The old didactic methods of teaching mathematics, which involved rote learning, are gradually being replaced by interactive teaching methods. On the other hand, the introduction of the use of graphic calculators and computers in mathematics classrooms is another worth mentioning recent change in mathematics. The power of using computers in the teaching of mathematics has been emphasized by the Agenda for Action in the United States as a strategy for developing problem solving skills which was seen as a touchstone for reform (Morris & Arora, 1992). For this reason, the Agenda advised that mathematics education programs must take full advantage of the power of calculators and computers at all grade levels. Such recommendations have been adopted not only in the United States but also in many other countries. It would be useful to find out the extent to which such recommendations in mathematics education have been implemented in Somalia.

Teaching Resources, the use of appropriate educational materials is equally important as the use of effective teaching methods when presenting mathematics lessons. To gain optimal results the use of these materials should not be limited to the teacher's demonstration, but rather pupils must use them in meaningful ways. Effective instruction depends on both the quality of the

resource and the skill of the teacher (Gauther & Lawson, 2004:25). Many studies show that the use of concrete materials can produce meaningful use of notational systems and increase pupil concept development. According to Douglass & Kristin (2000), in a comprehensive review of activity based learning in mathematics in kindergarten through grade eight, concluded that using manipulative materials produces greater achievement gains than not using them. They also note that the long-term use of concrete instructional materials by teachers knowledgeable in their use improved pupil achievement and attitudes. Eshiwawani (1983) points out that the availability of text-books and achievements have positive correlation. In a more recent meta-analysis of sixty studies (kindergarten through post-primary) that compared the effects of using concrete materials with the effects of more abstract instruction, suggests that teachers should use manipulative materials in mathematics instruction more regularly in order to give pupils hands-on experience that helps them construct useful meanings for the mathematical ideas they are learning. Use of the same material to teach multiple ideas over the course of schooling has the advantage of shortening the amount of time it takes to introduce the material and also helps pupils to see connections between ideas (Douglass & Kristin, 2000). Jones (1970) found that the television instruction in mathematics seems to produce a differential effect on pupils achievement at different ability levels. A good number of researches assert that the use of appropriate concrete materials in teaching mathematics plays an essential role in enhancing pupils' performance in the subject. However, the teaching materials used in mathematics classrooms in Malera Sub County have not been recorded, hence the need for this study.

Methods of Teaching Mathematics, there are various techniques and methods of teaching mathematics. Every teacher uses his/her specific way of presenting a lesson. That is why many scholars argue that there are as many methods of teaching as there are teachers. On the other hand, there is no one best or most effective method in teaching mathematics.

Miheso (2002), notes that no single teaching method can be the method of choice for all occasions. However, much is known about the characteristics of effective methods of teaching mathematics. What is important for every teacher is to select and use the methods with such characteristics. The quality of implementing mathematics programs is ultimately determined by the teacher's performance and effective work in the classroom situations (Rukangu, 2000). Traditionally, teaching in general and teaching mathematics in particular strongly relied on



teachers' exposition followed by practice of the fundamental skills. Many teachers of mathematics support the idea that practice makes perfect. They strongly contend that practice or drill alone can help pupils to master fundamental skills and procedures. According to Morris and Arore (1992), teachers of mathematics at all levels reverted to an emphasis on facts and skills in mathematics (through drill) became very common in many classrooms. It was monkey see, monkey do mathematics, with little or no reason given. Busbridge and Womack (1991) note that teachers explain a rule on the blackboard, give some examples of the rule in operation, and then set the class many more examples and exercises to do for themselves. They also noted that teachers believe that understanding would eventually come through sufficient practice. However, research has shown that drill alone cannot even guarantee recording of the learned theories. Bergeson, et al., (2000) contend that drill with a fact or skill does not guarantee immediate recall. They posit that pupil competence with a mathematical skill does necessitate extensive practice. Drill alone contributes little or nothing to growth in a pupil's mathematical understanding. There are a number of principles that appear frequently in any literature on effective mathematics instruction. These include a problem-oriented learning, focusing on meaning, whole-class discussion and small group-work. Effective teaching requires continuing efforts to learn and improve. Many scholars have addressed various issues relating these topics as effective methods of teaching mathematics. Research findings clearly support the use of small groups as part of mathematics instruction. This approach can result in increased pupil learning as measured by traditional achievement measures, as well as in other important outcomes (Douglass & Kristin, 2000) In a review of 80 research studies on grouping in mathematics classrooms, it was concluded that pupils working in small groups significantly outscored pupils working individually in more than 40 percent of the studies (Bergeson et al., 2000). Miheso (2002) argues that most studies on achievement on cooperative learning found that, there was significantly greater achievement in cooperative classes than in the control classes. Douglass and Kristin (2000) observes that considerable research evidence within mathematics education indicates that using small groups of various types for different classroom tasks has positive effects on pupil learning. Reviews of studies of the effects of cooperative learning have generally yielded positive findings. Research has shown that these programs enhance various effective outcomes, including inter-group relations, acceptance of mainstream academically handicapped pupils by their classmates, self-esteem, enjoyment of class or subject, and general acceptance of

others. Further, achievement effects of cooperative learning are generally positive (Douglas, 1992).

According to Posamentier and Stepelman (1999), a classroom in which problem solving plays a central role can provide a good environment for mathematics learning to take place. When confronted with an appropriately challenging and interesting problem, pupils feel both the urge to solve that problem and the concomitant tension that it arouses.

A problem needs two attributes if it is to enhance pupil understanding of mathematics. First, a problem needs the potential to create a learning environment that encourages pupils to discuss their thinking about the mathematical structures and underlying computational procedures within the problem's solution. Second, a problem needs the potential to lead pupil investigations into unknown yet important areas in mathematics (Bergeson et al., 2000).

Douglass and Kristin (2000) note that investigations have consistently shown that an emphasis on teaching for meaning has positive effects on pupil learning, including better initial learning, greater retention and an increased likelihood that the ideas will be used in new situations. Similarly, Rachel (2003) found that focusing on the meanings gives pupils a strong foundation for learning new related ideas. It also helps them to know when to apply particular skills or procedures, because they see the underlying reasons that these methods work. The research findings indicated that achievement levels were significantly different in interactive from those in traditional classrooms at computational levels. However, differences in achievement were evident between interactive and traditional classrooms in application and comprehension levels of cognitive growth' (Miheso, 2002:83). She also found in her research that currently didactic teaching accounted for 75% of mathematics teaching and only 25% accounted for classroom interaction. On the other hand, research suggests that whole-class discussion can be effective when it is used for sharing and explaining the variety of solutions by which individual pupils have solved problems. It allows pupils to see the many ways of examining a situation and the variety of appropriate and acceptable solutions (Douglass & Kristin, 2000). Some mathematics educators believe that for a mathematics teaching method to be effective, it should contain various and balanced pedagogical approaches and activities so that pupils with different types of learning styles can be catered for. Cockcroft (1982) notes that mathematics teaching at all levels

should include opportunities for: Exposition by the teacher; which include the following activities outline below;

- ✓ Discussion between teacher and pupils and between pupils themselves;
- ✓ Appropriate practical work;
- ✓ Consolidation and practice of fundamental skills and routines;
- ✓ Investigational work.
- ✓ Problem solving, including the application of mathematics to everyday situations;

The types of methods that teachers use when teaching mathematics in Malera Sub County have never been empirically documented. Thus there was a need for this research.

## 2.5 Factors leading to poor performance in mathematics

Teacher Qualifications, according to Longman Advanced American Dictionary, to qualify is to have the right to do something. Thus a qualified teacher of mathematics is one who has the right to teach mathematics. Although this right complies with the respective educational policies of each nation, there are two main and common components of the issue. These include the teacher's knowledge of the content, and the possession of appropriate teaching skills. More practically, this can be stated that a qualified primary school teacher of mathematics is one who majored or minored in mathematics. In general, researchers have found that possessing a major or minor in mathematics or science is related to increased pupil achievement in these subject areas. Pupils taught by teachers with degrees in mathematics have greater gains in achievement than pupils taught by teachers with non-mathematics degrees (Alexander and Fuller, 2005). Few educators, economists, or politicians would argue with the contention that, all other things being equal, highly qualified teachers produce greater pupil achievement than comparatively less qualified teachers. Indeed, good teachers have distinguishable impacts on pupil exam scores (Alexander and Fuller, 2005). On the other hand, having a qualified mathematics teacher in the classrooms is a problem almost everywhere. Despite the fact that research findings strongly emphasize the importance of having qualified mathematics teachers in the classroom, there is an acute shortage of qualified teachers of mathematics in most parts of both the developed and the developing countries. According to Bob (2007), in all parts of the world, attracting young or

mature entrants into teaching is a major challenge. In Europe, the United States, in South and West Asia and in Sub-Saharan Africa, problems to recruit sufficient teachers still exist. In many countries and regions, recruitment to specialist subject areas at the primary phase is particularly problematic (especially in mathematics and science). He also points out that the age profile of the teaching profession is also problematic with large percentages of teachers likely to retire in the coming decade. Many education systems are supplementing teachers with a growing cadre of para-professionals playing a variety of roles. Teacher recruitment and retention, in particular teachers of mathematics recruitment and retention are high on the agenda of education priorities in most countries. South Africa needs to train 20,000 teachers a year if they are to avoid an education crisis. However, research indicates that only 9,000 teachers a year are currently graduating (Adler et al., 2007:26). They have also pointed out that retention of mathematics teachers has been a problem in Zambia. This has been particularly so with regard to rural schools where many teachers refuse to be posted to avoid enduring the unfavorable working conditions. In Uganda, as in many developing countries, education has been regarded as a ladder to economic prosperity and power. Teaching is considered by many as transitional occupation before one is promoted to a position of influence and power. Perceptions are that there is no affluence in remaining a teacher for a long time. This hampers teacher's personal growth in terms of skills and style and so great teachers cannot be developed since young teachers do not stay long enough to develop to great teachers (Adler, et al., 2007). In his research on the causes of high turn-over of teachers in Somalia, Farah (1987) found that 67% of the respondents showed tendency to transfer to better paid economic sectors, such as banks and insurance companies. His study also revealed that teachers are dissatisfied with the salary scales and lack of promotion in teaching services. However, the qualifications of primary school teachers have not been systematically documented in Malera Sub County. Therefore, there was a need for this research.

Classroom Environment, to many people classroom environment is just another expression for classroom setting. It is an undeniable fact that classroom lighting, temperature and ventilation affect pupil's performance but creating an environment conducive to learning is more than having attractive sights, relaxing sounds, and good ventilation. In addition to that, a classroom environment conducive to learning is a place where everybody feels comfortable and at ease. It is a place where there is mutual respect in a friendly and non-threatening atmosphere. The teacher is the key factor in influencing the mood of the classroom environment. It is the teacher who

creates learner's attitudes towards the subject. With the help of their pupils, teachers foster positive classroom climate which encourages pupils to be comfortable and at ease in participating in all kinds of teaching learning activities. The teacher is always the decisive element in the classroom. It is the teacher's knowledge, personality, mood and skills that mold the entire classroom climate. Although most teachers are not aware of it, it is them who mend or end the children's ability to learn the subject. I've come to a frightening conclusion: that I am the decisive element in the classroom. It is my personal approach that creates the climate. It is my daily mood that makes the weather. As a teacher, I possess a tremendous power to make a child's life miserable or joyous. I can be a tool of torture or an instrument of inspiration. I can humiliate or humor, hurt or heal. In all situations, it is my response that decides whether a crisis will be escalated or de-escalated and a child humanized or de-humanized, Haim Ginott ([www.eqj.org/ginott.htm](http://www.eqj.org/ginott.htm)).

On the other hand, clear and simple standards of conduct that all pupils understand are essential to a productive classroom environment. Classroom routines and procedures are the best way to establish these standards. Effective classroom management is more than rules and discipline. Rather, —effective teachers establish responses to common classroom issues of order that allow them to focus maximum time and energy on the instructional process. A classroom environment is affected by both physical and psychological factors. Having emotionally safe and encouraging classroom climate is equally important, in creating an effective environment, as the physical make-up of the room. However, the conditions of the classroom environments in Malera Sub County have not been recorded, thus the need for this research.

Teaching Resources, the use of appropriate educational materials is equally important as the use of effective teaching methods when presenting mathematics lessons. To gain optimal results the use of these materials should not be limited to the teacher's demonstration, but rather pupils must use them in meaningful ways. Effective instruction depends on both the quality of the resource and the skill of the teacher (Gauther & Lawson, 2004:25). Many studies show that the use of concrete materials can produce meaningful use of notational systems and increase pupil concept development. According to Douglass & Kristin (2000), in a comprehensive review of activity based learning in mathematics in kindergarten through grade eight, concluded that using manipulative materials produces greater achievement gains than not using them. They also note

that the long-term use of concrete instructional materials by teachers knowledgeable in their use improved pupil achievement and attitudes. Eshiwawani (1983) points out that the availability of text-books and achievement have positive correlation. In a more recent meta-analysis of sixty studies (kindergarten through post-primary) that compared the effects of using concrete materials with the effects of more abstract instruction, suggests that teachers should use manipulative materials in mathematics instruction more regularly in order to give pupils hands-on experience that helps them construct useful meanings for the mathematical ideas they are learning. Use of the same material to teach multiple ideas over the course of schooling has the advantage of shortening the amount of time it takes to introduce the material and also helps pupils to see connections between ideas (Douglass & Kristin, 2000). Jones (1970) found that the television instruction in mathematics seems to produce a differential effect on pupils achievement at different ability levels. A good number of researches assert that the use of appropriate concrete materials in teaching mathematics plays an essential role in enhancing pupils' performance in the subject. However, the teaching materials used in mathematics classrooms in Malera Sub County have not been recorded, hence the need for this study.

Assessment in Mathematics, assessment was once synonymous with examination or test. It was traditionally believed that one final examination or utmost two were enough to assess pupils' achievements. Recently, both the objectives and the importance of assessment have changed. It is now strongly believed that assessment, teaching and learning are inseparable activities.

Orton & Frobisher, (1996) argue that in recent years, the assessment of children's mathematical achievement and attainment has become an increasingly prominent aspect of the mathematics curriculum. They also see that although mathematical assessment and testing of children has always taken place in schools, it has now assumed a greater importance. Although there are sound arguments for the assessment of mathematics being an integral part of what happens in schools and classrooms, teachers and mathematics educators express concern that assessment and testing, in particular, may have an undue influence on the way mathematics is taught and learned.

Cockcroft (1982) advises the teachers that the form of assessment which is most immediately apparent to a pupil is the marking of written work; this may be routine class work or a more

formal test. Such marking needs to be both diagnostic and supportive. A short but influential book by HMI lays out ten principles associated with assessment of pupils' mathematics work. Teachers need to know what pupils find difficult, and why they find it difficult. Without the latter diagnosis, any action to remove the difficulty will probably be ineffective. The vast majority of teachers would give wholehearted support to the statement but few would be able to claim that they had the knowledge and ability to operationalize it in the classroom. Thus eight years on there are few schools which have taken on board the implications of this HMI principle, and pupils continue to make the same mistakes over and over again as little or no diagnosis of their errors is ever made (Orton & Wain, 1994). Cockcroft (1982) notes in his report that examinations in mathematics that consist only of timed written papers cannot, by their nature, assess ability to undertake practical and investigational work or ability to carry out work of an extended nature. They cannot assess skills of mental computation or ability to discuss mathematics nor, other than in very limited ways, qualities of perseverance and inventiveness. Work and qualities of this kind can only be assessed in the classroom and such assessment needs to be made over an extended period. However, how pupils' learning of mathematics is assessed and how the assessment results are used as a feedback in enhancing mathematics teaching in Malera Sub County has not been documented, hence the need for this study.

Teachers' Attitudes, it is generally believed that human beings are social persons with beliefs, emotions and views that not only influence but also determine their choices. Teachers' beliefs about mathematics play a major role in shaping their instructional practice, and consequently influence their pupils' attitudes, interests and achievement (Nicolaidou & Philippou, 2003). Mathematics teachers' styles of teaching mathematics mainly depend on their systems of beliefs; in particular on their conceptions of the nature of mathematics, and on their mental models of teaching and learning mathematics. Teachers' attitudes towards the nature of mathematics are likely to affect pupils' performance in mathematics.

According to Nicolaidou & Philippou (2003), Teachers' conceptions of the nature and meaning of mathematics are crucial to teachers' approach to mathematics teaching. Thus, it is seen that the teacher's perception about the nature of mathematics is an integral feature of a mathematics classroom. Basically, there are two main views of mathematics teachers towards the nature of the subject. These are the traditional absolutist view and the non-traditional constructivist view.

Teachers' with absolutist conception of mathematics describe the mathematics subject as a vast collection of fixed and infallible concepts and skills. On the other hand, those with the constructivist view see it as a continually expanding field of human creation and invention, Nahid, ([www.people.ex.ac.uk/PErnest/pome](http://www.people.ex.ac.uk/PErnest/pome)). He also contends that the teachers who hold the absolutist view about mathematics and its teaching and learning are more likely: to create teacher-centered instructional environment, teach mathematics as rules to be memorized, and portray mathematics as an infallible discipline. Teachers holding constructivist view of mathematics are expected to adopt teacher-pupil interaction mode of instruction by allowing pupils to explore and investigate while teachers reside in their classrooms as facilitators. However, the attitudes of mathematics teachers towards the subject have not been scientifically documented in Malera Sub County, therefore, the need for this study.

Pupils Attitudes towards Mathematics, it is most probable that pupils' attitudes towards mathematics influence the efforts they put in understanding and practicing mathematical concepts and skills. This will in turn affect their achievements in the subject. If for example a pupil believes that mathematics is so hard that only very few pupils can learn it, and he/she is not one of them, then he/she will not waste time in solving mathematical problems. The implication is also the same if the pupil believes that it does not have any practical real life applications and hence it is less likely that he/she will succeed in mathematics.

According to Sindhu (1982) a vast majority of people hold mathematics as a dry and difficult subject full of abstract things. Pupils' feelings are important and strongly affect the amount of work, effort put forward and the learning that is acquired. Thus attitudes determine the effort a pupil is likely to put in his learning of a subject. For example, a pupil who likes mathematics is likely to put more effort in learning the subject and at the same time increase the chance of performing well in the subject than a pupil who dislikes the very subject (Benson, 1999).

Pupil's attitudes towards mathematics have been found to be positive in the early years of primary schooling, but decline as they progress to upper classes. It is, therefore, necessary for mathematics teachers to strive and sustain positive attitudes towards mathematics for good performance in the upper classes (Benson, 1999). Hence, it was the intention of this study to



establish the attitudes of pupils in Malera Sub County towards mathematics and mathematics teachers.

Strategies of improving, cockcroft (1982) advises the teachers that the form of assessment which is most immediately apparent to a pupil is the marking of written work; this may be routine class work or a more formal test. Such marking needs to be both diagnostic and supportive. A short but influential book by HMI lays out ten principles associated with assessment of pupils' mathematics work. Teachers need to know what pupils find difficult, and why they find it difficult. Without the latter diagnosis, any action to remove the difficulty will probably be ineffective. The vast majority of teachers would give wholehearted support to the statement but few would be able to claim that they had the knowledge and ability to operationalize it in the classroom. Thus eight years on there are few schools which have taken on board the implications of this HMI principle, and pupils continue to make the same mistakes over and over again as little or no diagnosis of their errors is ever made (Orton & Wain, 1994). Cockcroft (1982) notes in his report that examinations in mathematics that consist only of timed written papers cannot, by their nature, assess ability to undertake practical and investigational work or ability to carry out work of an extended nature. They cannot assess skills of mental computation or ability to discuss mathematics nor, other than in very limited ways, qualities of perseverance and inventiveness. Work and qualities of this kind can only be assessed in the classroom and such assessment needs to be made over an extended period. However, how pupils' learning of mathematics is assessed and how the assessment results are used as a feedback in enhancing mathematics teaching in Malera Sub County has not been documented, hence the need for this study.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This chapter presents the methods which were employed in data collection and analysis. It describes the research design, population of the study, sampling method, sample size, data collection methods, data quality control, research instruments, validity and reliability of instruments, data gathering procedure, data analysis, ethical consideration and limitations of the study.

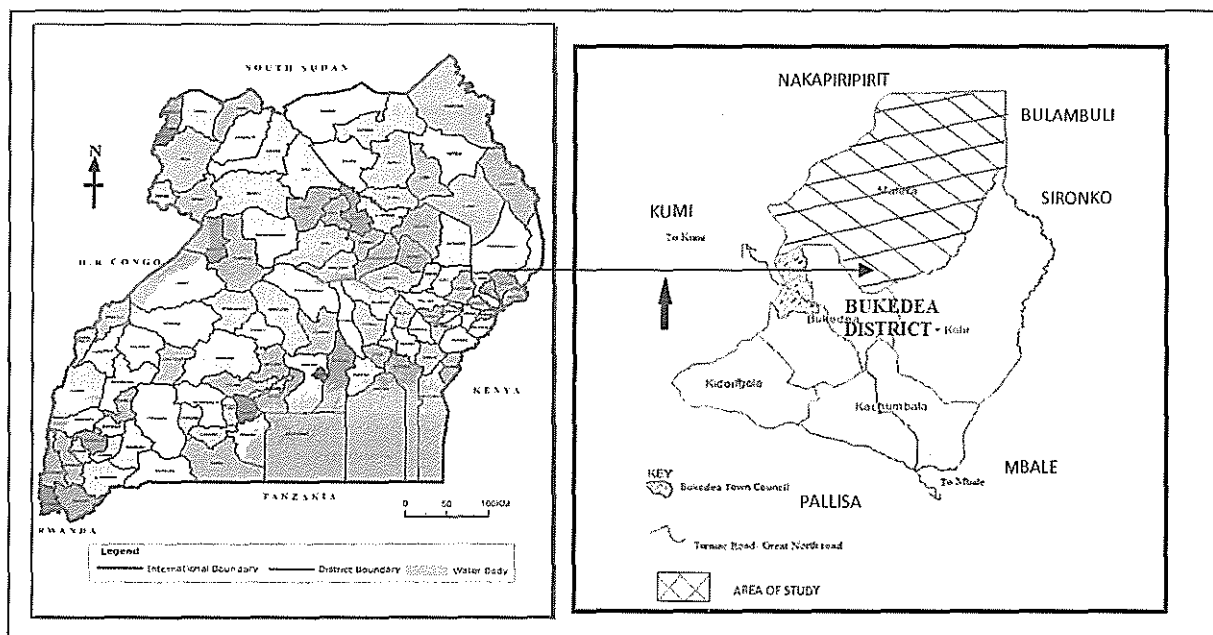
#### 3.1. Research Design

The study design was an explanatory design and both qualitative and quantitative data was used to have an in-depth understanding on the factors leading to poor performance of mathematics in primary schools

#### 3.2. Area and population of the study

The study was conducted from selected government primary schools in Bukedea District most especially those around Malera Sub county.

Figure 2 The Map of Uganda Showing the Location of Bukedea-Malera Sub County



### 3.3. Study Population

The study population was 100 respondents and it comprised of pupils, teachers, parents and other stake holders within selected schools in Malera Sub County, Bukedea District.

### 3.4. Sampling Procedure

Purposive sampling was used to get information from pupils, teachers, parents and other stake holders of Malera Sub County. In addition simple random sampling was also used to limit on the biasness of purposive sampling since purposive sampling doesn't give a specific sample size.

### 3.5. Sample size

The study was based on a sample size of 100 respondents that was drawn from a population.

The sample included ten (10) schools out of 23 public schools in Malera sub county.

For the purpose of accuracy the researcher also at a certain point used Slovene's statistical formula given below to arrive at the sample size.

$$n = \frac{N}{1+N(a^2)}$$

- Where:
- n = sample size
  - N = population of the study
  - a = 0.05 level of the significance of the study.

**Table 3.1 Showing the population under study**

Popn. under study		SCHOOLS										
Category	Sex	A	B	C	D	E	F	G	H	I	J	Tot.
Head teachers	M	1	-	-	1	-	1	-	-	-	-	3
	F	-	-	-	-	-	-	-	-	-	-	0
Class teachers	M	1	-	-	1	-	-	-	-	-	1	3
	F	-	1	1	-	1	-	1	1	1	-	6
School pupils	M	4	-	4	-	-	3	-	3	-	4	18
	F	5	5	2	5	5	-	5	-	5	-	32
Local councilors	M	1	-	-	-	1	-	-	-	-	1	3
	F	-	-	-	-	-	-	-	-	-	-	0
Parents	M	1	1	1	1	1	1	1	-	-	-	7
	F	1	-	-	-	-	-	1	1	1	1	5
Math failures	M	1	1	1	1	1	1	-	-	-	-	6
	F	-	1	1	1	1	1	1	1	1	1	9
SMC and PTA	M	1	1	1	1	1	1	-	-	-	-	6
	F	-	-	-	-	-	-	1	-	-	-	1
CDO	M	-	-	-	-	-	-	-	-	-	-	0
	F	-	-	-	1	-	-	-	-	-	-	1
Total	M	10	3	7	5	4	7	1	3	0	6	46
	F	6	7	4	7	7	1	9	3	8	2	54
General total	M & F	16	10	11	12	11	8	10	6	8	8	100

*Source: primary formulation 2017*

**Table 3.2 Showing sample size**

CATEGORY	SCHOOL										Tot.
	A	B	C	D	E	F	G	H	I	J	
Head teachers	1	0	0	1	0	1	0	0	0	0	3
Class teachers	1	1	1	1	1	0	1	1	1	1	9
Pupils	9	5	6	5	5	3	5	3	5	4	50
Councilors	1	0	0	0	1	0	0	0	0	1	3
Parents	2	1	1	1	1	1	2	1	1	1	12
Math failures	1	2	2	2	2	2	1	1	1	1	15
SMC & PTA	1	1	1	1	1	1	1	0	0	0	7
CDO	0	0	0	1	0	0	0	0	0	0	1
<b>TOTAL</b>	<b>16</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>11</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>8</b>	<b>8</b>	<b>100</b>

*Source: Primary formulation 2017*

*Source: primary formulation 2017*

### 3.6. Sampling techniques

Purposive sampling was used to get information from pupils, teachers, parents and other stake holders of Bukedea District. In addition simple random sampling was also used to limit on the biasness of purposive sampling since purposive sampling didn't give a specific sample size.

### 3.7. Data collection instruments

Primary data was collected by the use of interviews. Interviews involve conversation between two or more people where questions are asked by the interviewer to elicit facts or statements from the interviewee. Interviews are a standard part of journalism and media reporting, but are also employed in many other situations, including research. Interviews are considered because they save time and make respondents focused on a specific response. Primary data was got from, journals, internet, newspapers, and reports.

### **3.8. Quality Control Methods**

#### **3.8.1 Validity.**

Validity refers to the effectiveness of the research instrument to measure what it is supposed to measure. This was achieved by asking right questions while avoiding use of ambiguous words. Validity application enabled the researcher to get the same quantity and quality of the required information in regards to the study.

#### **3.8.2 Reliability**

Reliability refers to ability of the research instrument to produce consistent information whenever applied to different respondents.

The reliability of the instruments was established through a pilot test of the questionnaires to ensure consistency and dependability and its ability to tap data that would answer the objectives of the study.

### **3.9. Data Management and Processing**

- ❖ The researcher read through the responses and looked for patterns or themes among the data.
- ❖ He also discovered a variety of themes, codes, or even possible categories that provided the beginnings of analysis, and/or ideas for future interviews. This involved categorizing the ideas got from various participants, for example, ideas from pupils, teachers, parents and other stake holders were coded differently and also categorizing people's ideas according to their age, sex because these different categories tend to think and feel differently from one another.
- ❖ Data collected through questionnaires was first be recorded in paper and then later coded in the coding sheet where a number will then be assigned to each answer in the interview with a corresponding number on the coding sheet. Then the same information will be transferred to the computer using Statistical Package for Social Scientists (SPSS).

### **3.10. Data Analysis**

Frequency tables and graphs were worked out basing on the data entered into SPSS. In these frequency tables and graphs, analyses were done with corresponding percentages. However, regression analysis was used for the relationships in the study.

Qualitative data was analyzed by the use of content analysis. Here findings were compared with quantitative data and analysis be made there on.

### **3.11. Ethical Consideration**

The researcher begun his study by obtaining an introductory letter from the university, permission from the School Head teacher, introduced himself and properly identify himself to the respondents, He informed the respondents about the topic and the objectives of the study, the type of questions to be asked and the possible consequences that the research has on the respondents, especially the importance of its findings to the pupils, teachers parents and several other stakeholders. He interviewed respondents and answers were jotted down in the handwritten formats that were later compiled for analysis.

All information and their identity were treated with utmost confidentiality, information was only to be used for the purpose of the research and it was not being made available to other people for any reason or purpose.

### **3.12. Challenges and possible solution(s).**

- Respondents were able to give confidential information, which would be sufficient to the researcher. However, the researcher convinced them that research is intended to help develop alternatives for improving on their performance.
- There was too much pressure as a result of limited time for the researcher. However, the researcher devoted adequate time on the research.
- Financial constraint since research requires money for documentation of information and transport the worst thing was that the researcher had no laptop and access to the computer was very expensive. However, the researcher minimized the costs as low as possible by paying money for only accessing the computer but typed the work himself and saved it direct to his flash than giving someone to type and do everything.

- Some respondents were reluctant to participate because of their busy schedule owing to the fact that they were always preoccupied with different responsibilities. However the researcher endeavored to use off-peak hours like lunch time evening hours and any other compatible time schedule that will be available.



## CHAPTER FOUR

### PRESENTATION OF FINDINGS

#### 4.1.0 Socio demographic characteristics

The study used a sample size of 100 respondents which was composed of 46 male and 54 female respondents. This was dominated by people aged 18-23 years as shown in table below

#### 4.1.1 The sample size

**Table 4.1** Showing the sample size

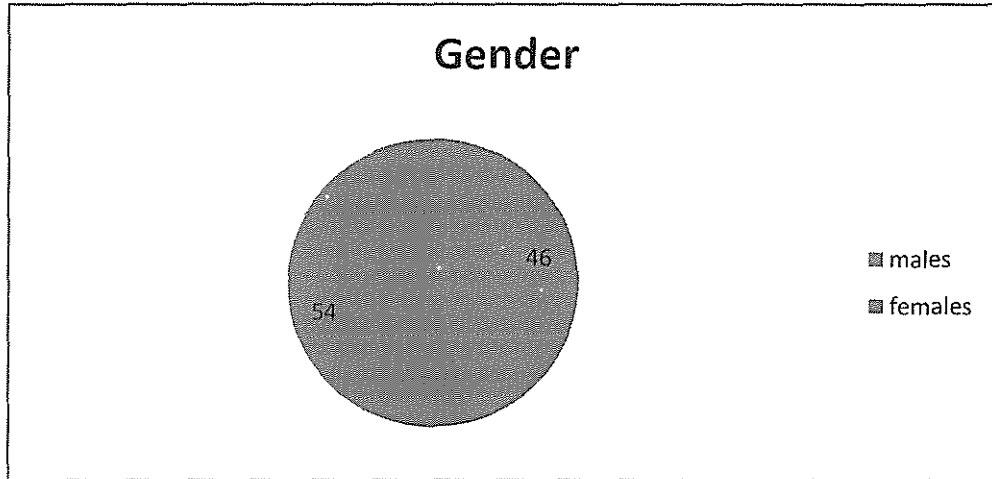
Group of respondents	Sex		Total number	Percentage
	Male	Female		
Head teachers	3	-	3	3%
Class Teachers	3	6	9	9%
School pupils	18	32	50	50%
Local councilors	3	-	3	3%
Parents	7	5	12	12%
Pupils who failed mathematics in the previous PLE exam	6	9	15	15%
SMCs and PTA	6	1	7	7%
C.D.O	-	1	1	1%
<b>Total of respondents</b>	<b>46</b>	<b>54</b>	<b>100</b>	<b>100%</b>

*Source: primary data 2017*

The study was based on the information obtained from 100 respondents which included 3 head teachers, 9 class teachers, 50 school pupils, 3 local councilors, 12 parents, 15 pupils who had failed mathematics in their previous PLE attempt, 7 members of the school management committee combined with PTA and 1 Community Development officer.

#### 4.1.2 Gender of the respondents

Figure 3: A pie chart showing the gender aspects in the sample size

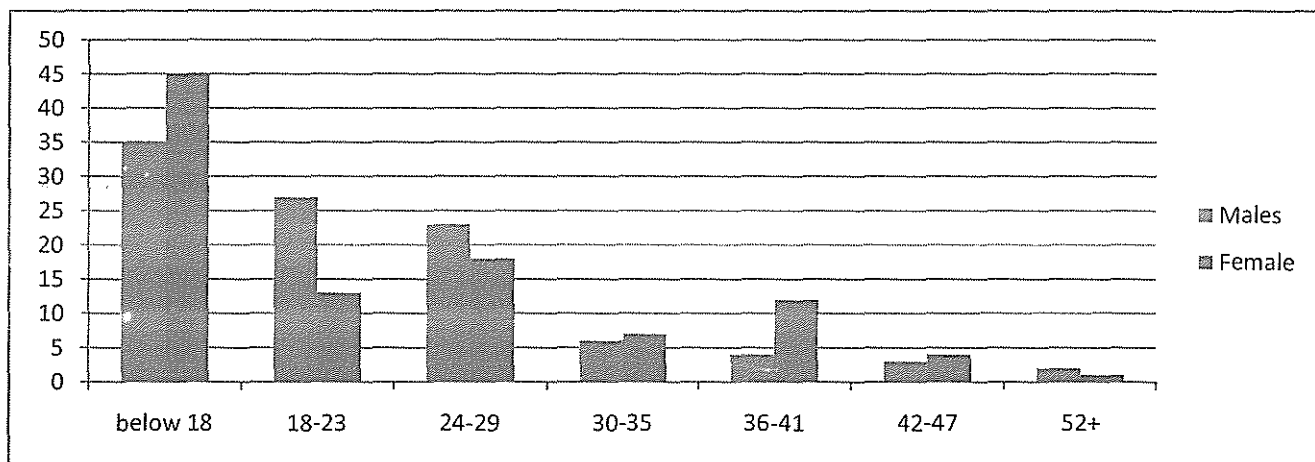


*Source: primary data 2017*

The data was collected from 100 respondents which included 54 female respondents (54%) and 46 male respondents (46%) this also implies that more female respondents were interested in the topic than male

#### 4.1.3 Age bracket of respondents

Figure 4: A bar graph showing the Age Bracket of respondents



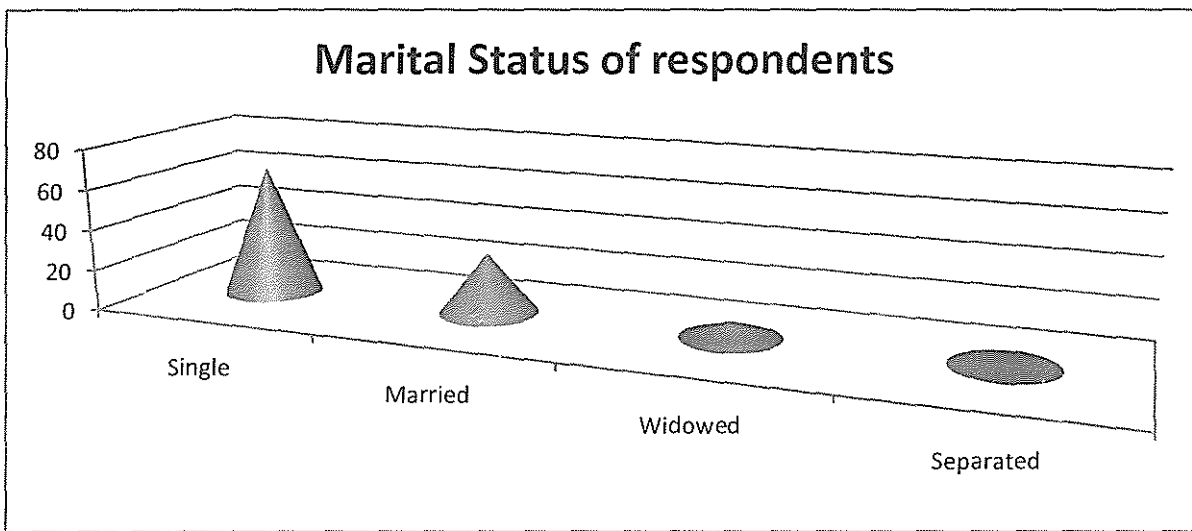
*Source: primary data 2017*

The data collected on this aspect indicates that a majority of the respondents were aged 18 years below and the fewest respondents were those aged 52 years and above.

This implies that there were more pupils willing to provide information compared to the elderly people. And also, a majority of that age group was very interested in the study topic.

#### 4.1.4 Marital status of respondents

Figure 5: A graph showing the marital status of respondents



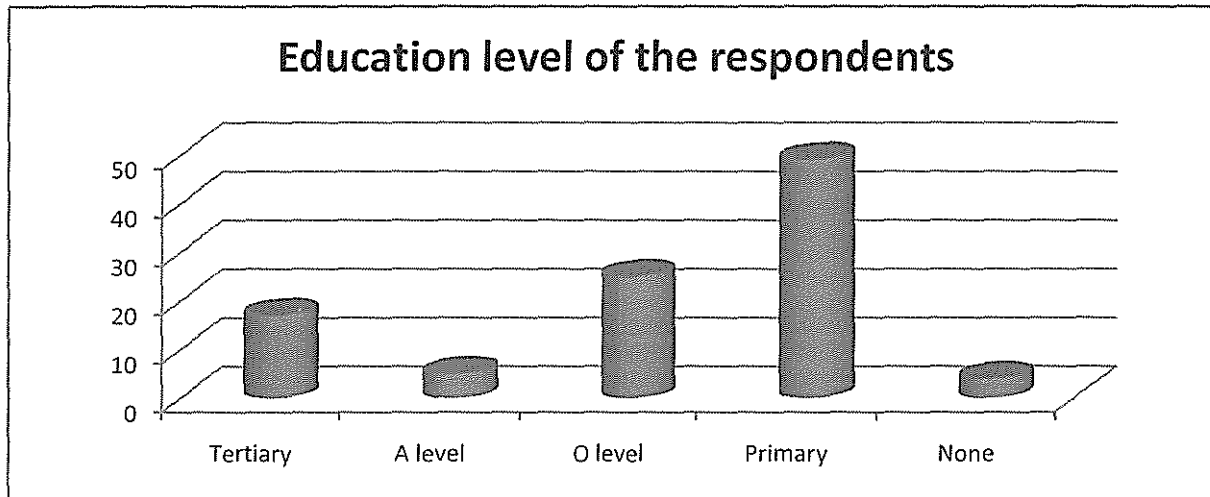
Source: primary data 2017

The data in figure 5 above shows that single respondents were 65%, married respondents were 30%, widowed were 5% and none(0%) were separated.

According to the information collected in table 4.4 above, single respondents (65%) and married respondents (30%) were more interested in the study than widowed and separated respondents implying that the researcher reached out to the right sample size who were responsible and gave the required data for the study.

#### 4.1.5 Education level of respondents

Figure 6: A bar chart showing the education level of respondents

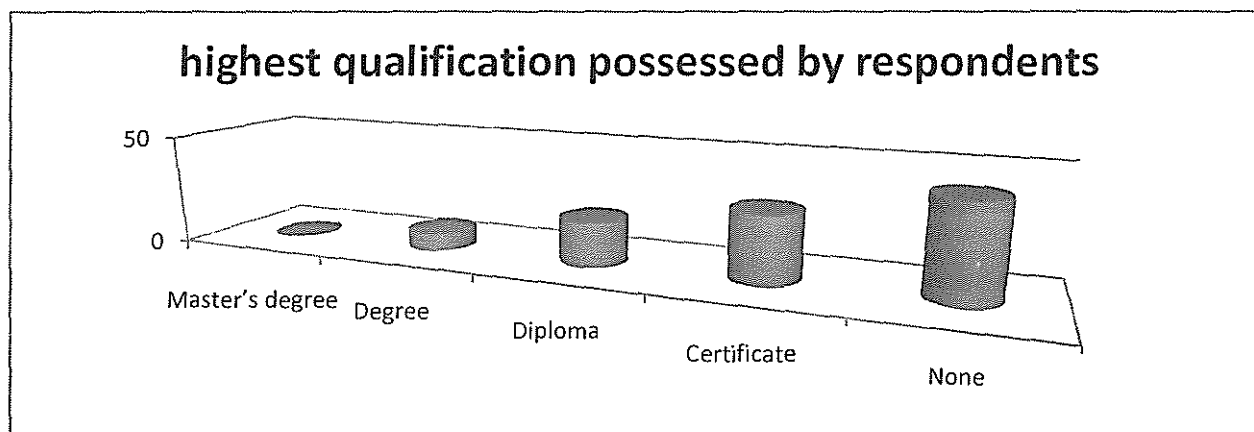


*Source: primary data 2017*

The data indicates that a majority of the respondents had completed primary level 49%, 25% had completed O level, 5% had completed A level and a few had only had not completed primary. Hence, primary pupils were most dominant in the study compared to other respondents.

#### 4.1.6 Highest qualification of the respondents

Figure 7: The highest qualification possessed by the respondents



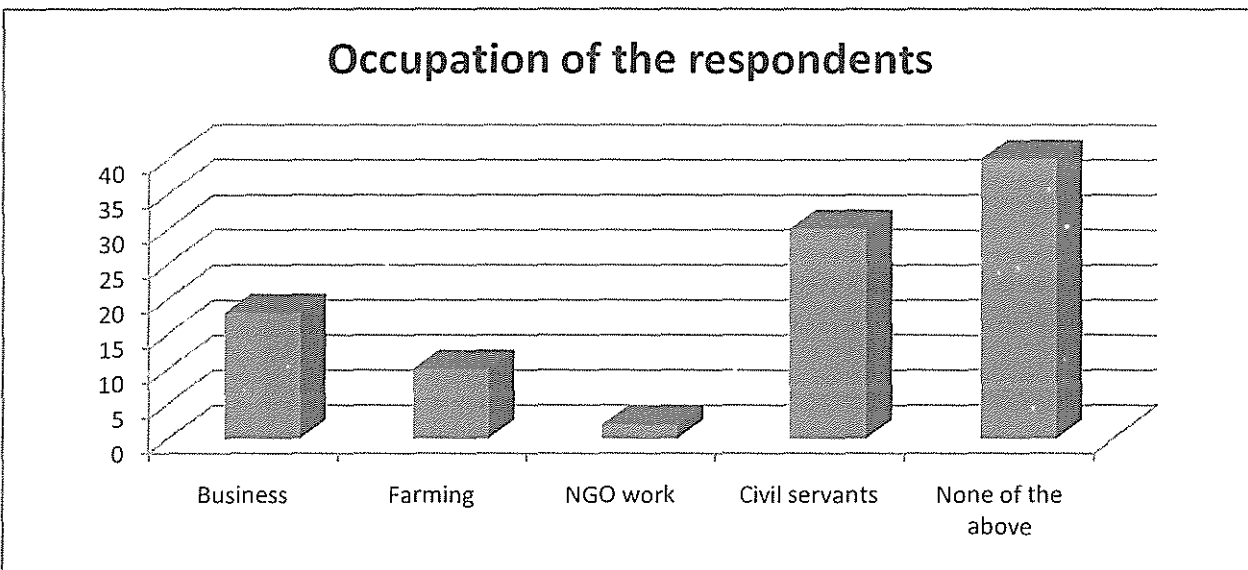
*Source: primary data 2017*

The data collected in table 7 above showed that there was no respondent with a master's degree qualification, 8% had bachelor's degrees, 20% possessed diplomas, 30% possessed certificates and 42% had none of the qualification.

The data also showed that people without qualifications 42% were more available in the field to provide the information needed on poor performance of mathematics in Malera Sub County. Since they were found to be more knowledgeable on the field of education which the study targeted

**4.1.7 Occupation of respondents**

**Figure 8: Showing the occupation of respondents.**



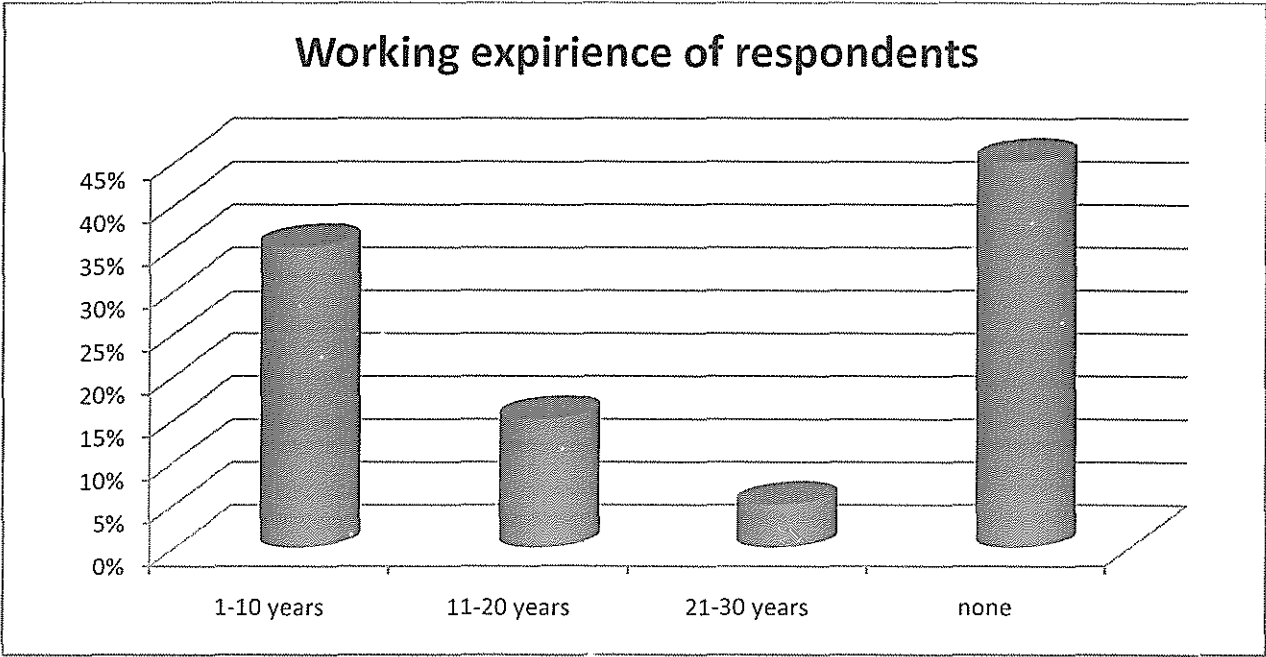
Source: primary data 2017

In table 8 above, business men were 18%, farmers were (10%), NGO workers 2%, civil servants were 30% and others were 40%

According to the information about the occupation of the respondents, it was found out that there are more civil servants in the Malera Sub County to provide information regarding poor performance of mathematics in Malera Sub County. This implied that all of them worked in government hence capable of giving relevant data

**4.1.8 Working Experience of the respondents**

**Figure 3A graph showing the working experience of the respondents**



Source: primary data 2017

According to the information in table 9 above respondents with an experience of 1-10 years of work were 35%, 11-20 were 15%, 21-30 were 15% and respondents without working experience constituted 45%

In as far as the working experience was concerned; the data collected showed that a majority of the respondents have no working experience i.e.45%. This implied that data collected was from primary respondents who had no work experience.

#### 4.2 Objective one: methods used by teachers of mathematics to conduct their lessons

Table 4.2 Showing methods of teaching mathematics

Methods of teaching mathematics	Frequency of use			
	Strongly Agree	Agree	Disagree	Strongly disagree
Talk and chalk (lecture method)	95	5	0	0
Practical	0	0	2	98
Group discussion	17	12	16	45
Assignment	50	21	18	11
Seminars	0	4	5	91
Demonstration	65	20	15	0
Project method	0	0	0	100
Field work	0	0	0	100
Question and answer approach	22	20	28	30

*Source: primary data 2017*

According to the information in the table 4.2 above, on enquiry of the teaching methodologies employed by teachers of mathematics in the selected schools of Malera Sub county, the following was found as shown in the above table;

According to the table above, 100 respondents agreed that talk and chalk method is used while none of the respondents disagreed. Talk and chalk method is severely used in all schools for administering mathematics as indicated by a percentage of 100%. This method involves giving explanations and writing in the chalk board as the learners are also listening and writing in their books what the teacher is writing in the black board. It's the most effective and efficient method of teaching mathematics especially in rural schools.

According to the table above, none of the respondents agreed that practical method is used while 100 respondents disagreed. The table above also shows that 0% of the teachers use the practical method of teaching mathematics. Practical method is one of the best exemplary methods that can make learners to understand quickly. It's strongly recommended for natural sciences like Biology, Chemistry, Physics and mathematics among others but due to limitations in the

materials and laboratory apparatus, it's not often used in a wide range of schools in the rural areas.

According to the table above, 29 respondents agreed that group discussion method is used while 71 respondents disagreed. This implies that group discussions are not very common in schools as indicated by 29%. Group discussion is the method which involves learners to sit in groups to share information concerning a given number; it involves consultation in case of numbers that prove to be difficult for learners. It's easy to call a teacher for assistance and it's also very efficient and effective as it is easier to help a group than an individual. When schools lack discussion groups, learners cannot help each other and hence find it difficult to excel especially in tricky subjects like mathematics

According to the table above, 71 respondents agreed that assignments are given to learners while 29 respondents disagreed. This shows that there are more assignments given to the learners as indicated by 71% of the respondents. Assignments are self-testing exercises that can be given to the pupils to accomplish in a specified period of time such that the teacher can be in position to determine whether the learners have understood a particular topic, sub topic, explanations or subject. The more the assignments given, the better the performance of the pupils because they will get used to questions prior to examinations.

According to the table above, 4 respondents agreed that seminar method is used while 96 respondents disagreed. This implies that this method is rarely used in a majority of schools in Malera Sub County as indicated by 4% of the respondents. Seminar method involves one or more schools coming together to discuss a given subject. It's one of the most effective methods for comparing schools in terms of syllabus coverage, question approach, and methodology, in rural schools, seminar method not frequently used because of limitation in the finance and the unwillingness of teachers to expose their personal weaknesses.

According to the table above, 85 respondents agreed that demonstration method is used while 15 respondents disagreed. This shows that this method is widely used in Malera Sub County as shown by 85% of the responses. Demonstration involves giving practical examples to the learners with use of visible and tangible objects to make the learners understand. It's very good for memory enhancement to the learners.



According to the table above, none of the respondents agreed that project method is used while 100 respondents disagreed. This implied that Project method is not used in Malera Sub County as represented by 0% of the responses. Project method involves identification of examinable areas in mathematics such that learners can master those areas. It involves employing the SWOT analysis in project work. Such that a teacher will be in position to evaluate the strength and opportunities of his learners as he builds on them while working on the weaknesses and threats to his learners at the same time. This method needs a teacher who is not over laden with teaching since it involves specialization and analyzes.

According to the table above, none of the respondents agreed that field work method is used while 100 respondents disagreed. This implies that schools in Malera Sub County don't conduct field works as indicated by 0% in the figure 4.9 above. Field work is one of the practical methods used by geography and Agriculture students at secondary levels; it involves taking the learners to areas of interest to see exactly what is taking place, for example parading students to see how other pupils revise books quietly, how they discuss, etc.

According to the table above, 42 respondents agreed that question and answer approach is used while 58 respondents disagreed. This indicates that this method is not so common used in most of the schools in Malera Sub County as indicated by 42%. Question and answer approach is the method where a lesson is dependent upon the questions a teacher is willing to answer. It involves tackling one question after the other to make the learners understand how to approach questions in examinations. It's the most effective and efficient teaching method used by several performing schools in the heart of Uganda.

### 4.3 Objective two: instructional materials used for teaching mathematics

Table 4.3 Showing the availability of instructional materials used by the teachers

Instructional material	Presence	Absence
Chalk board	100	0
Charts	21	79
Real objects	5	95
Specimens	2	98
Photographs	15	85
Handouts	12	88
Television set/video tapes	0	100
Mathematical chalk board set	35	65

*Source: primary data 2017*

According to the information in table 4.3 above, Chalk boards are widely distributed in all the schools of Malera Sub County as indicated by a percentage of 100%. This means that the government has done its best in providing chalk boards for all the schools enrolled under the Universal Primary Education program.

The information in the table above also shows that the presence of charts is 21% as compared to absence represented by 79%. This implies that most of the rural schools lack charts for teaching mathematics

The information in the table above also shows that the presence of real objects is 5% as compared to absence represented by 95%. This implies that almost all rural schools lack charts for teaching mathematics.

The information in the table above also shows that the presence of specimen is 2% as compared to absence represented by 92%. This as good as nothing because it's a clear indication that most schools do not have specimen to help learners of mathematics understand effectively and efficiently.

The data in the table above also shows that the presence of photographs is 15% as compared to absence represented by 85%. This implies that most of the schools in Malera Sub County lack photographs to show their learners while teaching mathematics.

The information in the table above also shows that the presence of handouts is 12% as compared to absence represented by 88%. This implies that most of the rural schools lack handouts for teaching mathematics

The information in the table above also shows that the presence of television or video tapes is 0% as compared to absence represented by 100%. This implies that all schools of Malera sub county lack television or video tape programs for teaching mathematics.

The data in the table also shows that the presence of mathematical chalk board sets is 35% as compared to absence represented by 65%. This implies that some of the schools in Malera Sub County lack mathematical chalk board sets for teaching mathematics and even a few who have rarely use them.

#### 4.4 Objective three: Learning materials possessed by learners of mathematics

Table 4.4 Showing the learning materials possessed by learners of mathematics.

Learning material	Present	Absent
Graph books	55	45
Mathematical set	97	3
Multiplication table	100	0
Mathematical text books	2	98
Exercise books	100	0
Notes	98	2
Rulers	78	22

*Source: primary data 2017*

According to the information in table 4.4 above, some learning materials are widely available while others are sparsely distributed as shown below:

The data in the table shows Graph books are available but not enough for all the pupils as indicated by 55%. Therefore, 45% of the pupils lack graph-books either due to negligence or inability to buy.

According to the table, Mathematical sets are widely distributed to a majority of the pupils in Malera Sub County as indicated by 97%. Therefore, only 3% of the pupils in candidate classes of Malera lack mathematical sets.

The data shows that all the pupils of Malera Sub County have Multiplication table as indicated by a whole parentage of 100%. This is so because all pupils who have exercise books have multiplication tables printed at the back cover of their mathematical exercise books.

It was found that only 2% of the pupils have access to Mathematical text books while 98% could not access mathematical text books. This implies that a majority of the primary schools in Malera Sub County lack libraries and even a few with book stores have limited or no books that the learners can use for revisions.

The data shows that all the pupils of Malera Sub County have Exercise books as indicated by a whole parentage of 100%. This is so because all pupils who can write and read must have exercise books and pens/pencils

According to the table, notes are widely possessed by a majority of the pupils in Malera Sub County as indicated by 98%. Therefore, only 2% of the pupils in candidate classes of Malera lack notes; hence they could be absentees or careless pupils

The data in the table shows Rulers are available but not enough for all the pupils as indicated by 78%. Therefore, 22% of the pupils lack Rulers either due to negligence or inability to buy or just because they lost their sets.

**4.5 Objective four: Causes of failure in mathematics in selected schools of Malera Sub County**

**Table 4.5 Showing the causes of failure in mathematics**

No	Statement to the Respondents	The rate at which it affects performance				
		Strongly Agree	Agree	Disagree	Strongly disagree	Not sure
1.	Mathematics is poorly done subject in a majority of schools in this community	75	20	5	0	0
2.	Unqualified teachers of mathematics are the major reason for failure of pupils in mathematics	12	28	27	43	0
3.	Girls often fail mathematics than boys	35	42	13	8	2
4.	Pupils with poor academic backgrounds fail mathematics than those with a good foundation	40	45	4	7	4
5.	The teachers of mathematics do not teach mathematics according to the curriculum	1	6	20	33	40
6.	Pupils have a poor attitude towards learning mathematics	45	29	13	10	3
7.	Teachers of mathematics believe that mathematics is hard to pass	15	23	46	15	1
8.	Pupils are not assessed more than three times in a term	67	30	1	1	1
9.	Pupils in most schools in this community lack materials needed for learning mathematics	78	19	1	2	0
10.	Teachers punish pupils who fail mathematical exercises	39	48	6	6	1
11.	Teachers of mathematics do not have enough mathematical teaching materials	51	27	15	5	2
12.	Grown up pupils often fail mathematics compared to young ones	2	18	61	4	15
13.	Parents do not provide scholastic materials to	0	2	35	55	8

	their children					
14.	Schools in this community lack teaching materials for mathematics	45	41	9	4	1
15.	Teachers of mathematics do not complete the syllabus in time	25	35	15	12	13

Source: primary data 2017

According to the information shown in table 4.5 above, the following was found; the respondents agreed and disagreed to the statements as explained below;

In enquiry whether Mathematics is poorly done subject in a majority of schools in the community, 95% of the respondents agreed, 5% disagreed while 0% were not sure. This means that mathematics is poorly performed in Malera Sub County as shown by a bigger percentage of 95%.

30% of the respondents blamed unqualified teachers of mathematics as the major reason for failure of pupils in mathematics, 70% disagreed while 0% of the respondents were not sure. This implies that unqualified teachers are not a threatening factor to the performance of mathematics as disagreed by 70% of the respondents.

77% of the respondents agreed to the suggestion that girls often fail mathematics than boys, 21% disagreed while 2% were not sure. This means that to a greater extent, a majority of girls poorly perform in mathematics as compared to boys.

85% of the respondents agreed to the assumption that pupils with poor academic backgrounds fail mathematics than those with a good foundation, 11% disagreed while 4% were not sure. This implies that academic background to a larger extent determines the performance of the learner in the later stages of learning.

7% of the respondents agreed that teachers of mathematics do not teach mathematics according to the curriculum, 53% disagreed while 40% were not sure whether this could be possible. This implies that there is no need to accuse teachers for not following the curriculum as indicated by the responses of 93% of the respondents.

74% of the respondents agreed to the suggestion that pupils have a poor attitude towards learning mathematics, 23% of the respondents disagreed while 3% were not sure whether pupils' attitudes are positive or negative. This implied that most of the pupils to a greater extent have a negative attitude towards learning mathematics as indicated by 74% of the respondents.

38% of the respondents agreed that Teachers of mathematics believe that mathematics is hard to pass, 61% disagreed while 1% of the respondents were not sure. This implies that there is no need to blame teachers for scaring pupils that mathematics is hard to pass this is evidenced by the responses of 62% of the respondents.

A majority (97% of the respondents) agreed that pupils are not assessed more than three times in a term, 2% disagreed while 1% of the respondents were not sure. This implies that there are minimal assessments given to the pupils in a term hence this exposes them to failure because they don't familiarize with questions as indicated by 97% of the respondents.

97% of the respondents agreed to the suggestion that pupils in most schools in this Malera Sub County lack materials needed for learning mathematics, 3% disagreed while 0% of the respondents were not sure. This implies that pupils have inadequate learning materials as indicated by a greater percentage of respondents (97%).

87% of the respondents agreed that teachers punish pupils who fail mathematical exercises, 12% of the respondents disagreed while 1% of the respondents were not sure. This shows that to a greater extent, teachers punish learners who fail mathematical exercises. In most cases teachers do this with a view of encouraging them to work hard in order to get good grades in mathematical examinations.

78% of the respondents agreed to the suggestion that teachers of mathematics do not have enough mathematical teaching materials, 20% disagreed while 1% of the respondents were not sure. This also implies that teachers have inadequate teaching materials for teaching mathematics as indicated by a bigger percentage of respondents (78%).

20% of the respondents agreed to the suggestion that grown up pupils often fail mathematics compared to young ones, 65% of the respondents disagreed while 15% were not sure. This implies that there is no need to assume that grown up pupils are weaker than young ones in as far



as performance in mathematics is concerned. This is evidenced by the responses of 80% of the respondents

Only 2% of the respondents agreed that parents do not provide scholastic materials to their children, 90% disagreed while 8% of the respondents were not sure. This implies that there is no need to blame parents for not providing scholastic materials to their children. This is evidenced by the responses of a larger number of the respondents (98%).

86% of the respondents agreed to the suggestion that schools in this Malera Sub County lack teaching materials for mathematics, 13% disagreed while 1% of the respondents were not sure. This implies that, to a greater extent, schools in Malera Sub County lack teaching materials for mathematics as explained by the large number of respondents (86%).

60% of the respondents agreed that teachers of mathematics do not complete the syllabus in time, 27% disagreed while 13% were not sure. This implies that, to some extent, teachers do not complete the syllabus in time.

#### 4.6 Objective five: Mechanisms of improving the performance of mathematics

**Table 4.6 Showing mechanisms for improving performance of mathematics**

S/n	Statement for your comment	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
1.	Teachers of mathematics should adopt good teaching methods to improve on the performance of mathematics.	48	39	5	6	2
2.	Teachers of mathematics should convince their learners that mathematics is the simplest subject to pass	40	37	20	2	1
3.	The girls should be encouraged to work harder in mathematics and change the attitude that they cannot perform like boys	39	40	11	9	1
4.	Discussion should be encouraged in class to enable the learners build on one another in weaker areas.	61	27	6	6	0
5.	Teachers should avoid administering punishments that can scare learners from learning mathematics	68	21	2	9	0
6.	Stake holders should help provide the schools with necessary instructional materials for mathematics	46	43	8	3	0
7.	Mathematics teachers should complete the syllabus in time	70	30	0	0	0
8.	Parents should take the responsibility of supporting their children with learning materials needed for effective learning of mathematics	34	57	4	2	3

*Source: primary data 2017*

According to the information in table 4.13 above, the respondents proposed the following mechanisms for improving on the performance of mathematics:

87% of the respondents agreed that teachers of mathematics should adopt good teaching methods to improve on the performance of mathematics, 11% disagreed, 2 percent were not sure whether the resolution should be adopted.

77% of the respondents agreed that teachers of mathematics should convince their learners that mathematics is the simplest subject to pass while 22% disagreed as one of the respondents was not sure of what to be resolved

79% of the respondents agreed that girls should be encouraged to work harder in mathematics and change the attitude that they cannot perform like boys, 20% disagreed while one of the respondents was not sure

88% of the respondents agreed that discussions should be encouraged in class to enable the learners build on one another in weaker areas, 12% disagreed and 0% of the respondents were not sure.

89% of the respondents agreed that teachers should avoid administering punishments that can scare learners from learning mathematics, 11% of the respondents disagreed and 0% of the respondents were not sure.

89% of the respondents agreed that stake holders should help provide the schools with necessary instructional materials for mathematics, 11% of the respondents disagreed and 0% of the respondents were not sure.

All the respondents (100%) agreed that Mathematics teachers should complete the syllabus in time.

A majority of the respondents (91%) agreed to the resolution that parents should take the responsibility of supporting their children with learning materials needed for effective learning of mathematics, 6% disagreed while 3% were not sure whether this can be possible.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter presents the summary, discussions of the study in relation to literature review, recommendations and conclusions.

#### **5.1. Summary of the findings.**

##### **Demographic characteristics of respondents**

According to the study findings, a total of 100 respondents answered the questionnaire, there were 46 male and 54 female respondents, respondents of 18 years and below dominated the study, a majority of the respondents were single, many were still in primary, a majority had no qualifications, occupation and work experience.

##### **The teaching methods used by teachers of mathematics.**

The study found out that three major methods were commonly used by the teachers of mathematics in teaching mathematical concepts and this included; the lecture (talk and chalk method which was used 100% throughout the schools of Malera sub county, assignment method which was used in about 71% of the schools in Malera sub county, Demonstration method which was covering 85% of the schools in Malera sub county and the question and answer approach that was covering only 42% while other methods like group discussion, practical method, project method, field work and seminar methods are not used by the teachers of mathematics to deliver mathematical concepts to the learners.

##### **Presence of teaching-learning materials for mathematics**

The information in this study also shows that teachers had limited materials for teaching mathematics. It was found that all schools have chalk boards and a few (35%) had mathematical sets while the rest of the teaching materials like; hand-outs, charts, televisions, specimen, among others were missing in many schools, this makes the teaching of mathematics very difficult

### **Learning materials possessed by learners of mathematics**

The findings showed that a majority of the learners had all the learning materials required for learning mathematics apart from mathematics text books. It was found out that mathematical sets were widely distributed to all candidates in P.7, all pupils had exercise books and multiplication tables, a majority of the learners had enough notes in all topics, a good percentage of about 78% of the learners had rulers while 55% had graph books

### **Contributing factors towards poor performance in mathematics**

The findings identified several factors to be responsible for the poor performance of pupils in mathematics. The major ones included; the historical perspective that pupils always fail mathematics, poor academic background of the learner, pupils have a poor attitude towards mathematics, inadequate termly assessment of the learners, inadequate learning materials, punishment of the learners who fail mathematical exercises, inadequate teaching materials, among others.

### **Strategies that may be of useful importance in improving pupils' performance in mathematics**

The findings identified some of the proposed solutions for improving the performance of mathematics among the learners of Malera sub County and these included; adoption of good teaching methods by the teachers of mathematics, teachers of mathematics should convince their learners that mathematics is the simplest subject to pass, girls should be encouraged to work harder in mathematics and change the attitude that they cannot perform like boys, encouraging discussion to enable the learners build on one another in weaker areas, teachers to avoid administering punishments that can scare learners from learning mathematics, stake holders to help provide the schools with necessary instructional materials for mathematics, teachers of mathematics to complete the syllabus in time, parents to support their children with learning materials needed for effective learning of mathematics,

## **5.2 Conclusion**

Based on the above findings, the study concludes that poor performance among the pupils in mathematics in Malera Sub County is a product of school based factors, socio-economic issues,

pupils and pupils' negative attitude towards mathematics among others, limitations in the teaching and learning materials. Altogether, these factors play a leading role in determining the performance of pupils in mathematics hence, there is need to generate several alternatives to tackle the problem in all the aspects identified above.

### **5.3 Recommendations**

The study generated several recommendations for the improvement of performance among the pupils in not only Bukedea but also in other rural primary schools, these are segmented as follows;

#### **Recommendations to the government of Uganda.**

The government should recruit more teachers in order to reduce on the student-teacher ratio. If this can be implemented, the teachers' workload would be reduced hence giving them enough time to assess the pupils regularly leading to improvement in performance.

The government should also construct more schools in the villages, the introduction of USE in 2007 increased the enrolment of pupils for primary education and yet this is not matched with the expansion of class rooms or construction of new schools hence the schools are overcrowded by many pupils which has affected the performance. If schools could be increased in rural areas, pupils would not travel long distances seeking for far schools, and these would reduce punctuality problems leading to improvement in attendance and performance at the end

The government should increase teacher's salary to boost their morale through remuneration and descent accommodations, so that they are punctual in classes and give enough time to pupils and have interest to teach.

The local governments should crackdown idle children and destroy such groups in the town center who are idle and always seen enjoying the drugs like eating marijuana and smoking opium. It will better our children's life if those arrested are imprisoned because they spoil the young ones.

The government should arrange and where possible include health programs where medical personnel go to the primary schools and sensitize girls about nature, especially the adolescents so

that they will know how to keep themselves in such periods and be alert of when they can expect their menstruation.

The government should sensitize the parents about their responsibilities as mandated by the law in educating their children so that over reliance of parents on the government will be reduced.

The government should avail the capitation grant to schools on time so that other aspects meant for it are executed on time as a means to help schools to retool their institutions in time

The district committee especially the District Education Officer and the District Inspector of Schools should make sure that schools are regularly supervised in order to ensure that all head teachers monitor the performance of their teachers as a means of improving on their efficiency

**To the Ministry of Education and Sports;**

The ministry of education should put more attention to schools in rural areas since most of these schools are not well equipped for pupils to learn successfully.

More funds should be allocated to the MOES and where applicable, the MOES should solicit funds that should be channeled towards the improvement of rural schools. By so doing, the performance inequality gap between rural and urban schools may be reduced

**To the parents;**

Parents should pay the required school fund timely so as to avoid embarrassment of their children by being sent home frequently.

Parents should exercise saving culture so as to keep some money to deal with emergency situation that keep children in school.

Parents who drink a lot of alcohol should reduce on their consumption rate as it takes a lot of money that can be used to pay school fees and other requirements.

Parents should handle their children with soft hands, meaning they should sit them down and tell them what it takes to be a good child and to succeed in life. For girls like in puberty stage, they

should provide them with necessary requirements so as to avoid incidences of embarrassment that can make them leave school.

Parents should at least once awhile take time to go and visit their children in school and ask about their conduct, strength and weakness in class. They should avoid going to school when there is only general meeting like P.T.A.

Parents should give time for children to study/revise their work but they should not forget doing simple works at home during their free time after revision because work moves hand in hand with education.

Parents should avoid gender discrimination and realize that both genders are vital and carry the same dignity and can do the same thing perfectly hence girls should be given chance to learn at the same level and environment with boys.

#### **To the schools;**

The school administration has to be considerate in that at least when a child is left with small balance; they should get alternative way of reaching the parents such as through phone call for those who have phones or writ a chit to be taken to them, other than chasing them out of class during class hours

Teachers found to be in relationship with young school girls and boys should be terminated because they are ruining the lives of these innocent children.

PTA meeting is the most important interface between parents and teachers to discuss issues pertaining children's conduct and education therefore, if it can be organized every term it will be better.

After coming back from school or in weekends, children should try to help their parents in the field so as to keep the parents spirits high to help them. Children should listen to their parents and try to explain their dissatisfaction in case of any contrary action by the parents so that their needs can be understood.



### **To the pupils**

Pupils should work hard and avoid other activities that can keep them away from school

Pupils should adopt the use of English language since it's the one used for setting examinations

### **5.4 Areas for Further Research**

1. Challenges faced by schools in rural areas in implementing the free education program
2. Comparative analysis of performance between rural and urban school
3. The perspective of the rural community about Free Education
4. The impact of Universal Primary Education (USE) to the people in rural communities.

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## APPENDICES

### APPENDIX I: DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENT

**1. Age of the respondent (tick one)**

20-25

26-30

31-35

36-40

41-45

46-50

51+

**2. Sex of the respondent (tick one)**

Male

Female

**3. Marital status (tick one)**

Single

Married

Widowed

Separated

**4. Highest level of education (tick one)**

A-Level

O-Level

Primary

None

**5. Highest qualification (tick one)**

Master's degree

Bachelor's degree

Diploma

Certificate

None

**6. Occupation of the respondent (tick one)**

Business

- Farming
- NGO work
- Civil servant
- None

**7. Work experience of the respondent (tick one)**

- 1-10
- 11-20
- 21-30
- 31+

*(Please fill the appropriate box that indicates your best opinion by ticking)*

**Objective one (a) methods used by teachers of mathematics to conduct their lessons**

Rank each of the following teaching methods that you usually use during the teaching according to frequency of use *(tick the appropriate one)*

Methods of teaching mathematics	Frequency of use			
	Very often	Often	Rarely	Not used
Talk and chalk (lecture method)				
Practical				
Group discussion				
Assignment				
Seminars				
Demonstration				
Project method				
Field work				
Question and answer approach				

**Objective one (b) instructional materials used for teaching mathematics**

Below is a list of instructional materials that should be used for teaching mathematics. Tick the items that your school has.

<b>Instructional material</b>	<b>Tick if present</b>
Chalk board	
Charts	
Real objects	
Specimens	
Photographs	
Handouts	
Television set/video tapes	
Mathematical chalk board set	

**Objective one (c) Learning materials possessed by learners of mathematics**

Below is a list of instructional materials that should be used for teaching mathematics. Tick the items that pupils have.

<b>Learning material</b>	<b>Tick if present</b>
Graph books	
Mathematical set	
Multiplication table	
Mathematical text books	
Exercise books	
Notes	
Rulers	



**Objective two: Causes of failure in mathematics in selected schools of Malera Sub County**

*(tick the appropriate one)*

S.N	Statement to the Respondents	The rate at which it affects performance				
		Strongly Agree	Agree	Disagree	Strongly disagree	Not sure
16.	Mathematics is poorly done subject in a majority of schools in this community					
17.	Unqualified teachers of mathematics are the major reason for failure of pupils in mathematics					
18.	Girls often fail mathematics than boys					
19.	Pupils with poor academic backgrounds fail mathematics than those with a good foundation					
20.	The teachers of mathematics do not teach mathematics according to the curriculum					
21.	Pupils have a poor attitude towards learning mathematics					
22.	Teachers of mathematics believe that mathematics is hard to pass					
23.	Pupils are not assessed more than three times in a term					
24.	Pupils in most schools in this community lack materials needed for learning mathematics					
25.	Teachers punish pupils who fail mathematical exercises					
26.	Teachers of mathematics do not have enough mathematical teaching materials					

27.	Grown up pupils often fail mathematics compared to young ones					
28.	Parents do not provide scholastic materials to their children					
29.	Schools in this community lack teaching materials for mathematics					
30.	Teachers of mathematics do not complete the syllabus in time					

**Objective 3. Mechanisms of improving the performance of mathematics**

*(Please fill the appropriate box that indicates your best opinion by ticking)*

s/n	Statement for your comment	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
9.	Teachers of mathematics should adopt good teaching methods to improve on the performance of mathematics.					
10.	Teachers of mathematics should convince their learners that mathematics is the simplest subject to pass					
11.	The girls should be encouraged to work harder in mathematics and change the attitude that they cannot perform like boys					
12.	Discussion should be encouraged in class to enable the learners build on one another in weaker areas.					
13.	Teachers should avoid administering punishments that can scare learners from learning mathematics					
14.	Stake holders should help provide the schools with necessary instructional materials for					

	mathematics					
15.	Mathematics teachers should complete the syllabus in time					
16.	Parents should take the responsibility of supporting their children with learning materials needed for effective learning of mathematics					

**College of Education Open and Distance Learning**

Date: 7<sup>th</sup> February, 2017

*Highly recommended to  
carry on with research data  
collection*

TO WHOM IT MAY CONCERN:

*J. An...*  
**DISTRICT EDUCATION  
OFFICER  
MUKONO**

10/08/2017

ODEKE PATRICK REG.NO/153-07174-03565  
Dear Sir/Madam, "AN INVESTIGATION ON POOR PERFORMANCE  
OF MATHEMATICS IN MAKERA SUBCOUNTY"

**Re: Research/Project:**

The above named is our student in the College of Education, Open and  
Distance Learning (CEODL) pursuing a Bachelor of

EDUCATION - PRIMARY

He/She wishes to carry out Research in your school/organization.

Research is a requirement for the award of a Bachelor of

EDUCATION

Any assistance accorded him/her will be highly appreciated.

Thank you.

*Womuzumbu Moses*

**Branch Director – Mob: 0782572505**

