

**THE EFFECT OF TEACHING AIDS ON THE PERFORMANCE
OF PUPILS IN MATHEMATICS IN PRIMARY SCHOOLS IN
KITGUM DISTRICT. THE CASE OF SELECTED
PRIMARY SCHOOLS IN MUCWINI
SUB-COUNTY.**


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**A RESEARCH REPORT SUBMITTED TO INSTITUTE OF DISTANCE
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DECLARARTION

I LOK LANYA NONO VINCENT DEMAR declare that this my original research work and has not been submitted for the award of a Bachelor Degree in any other University.

Sign: 

Date: 18.10.2011.

APPROVAL SHEET


This is to certify that the following research by LOK LANYA NONO VINCENT
DEMAR has been carried out under the title:

“THE EFFECT OF TEACHING AIDS ON THE PERFORMANCE OF
PUPILS IN MATHEMATICS IN PRIMARY SCHOOLS IN
KITGUM DISTRICT. THE CASE OF SELECTED
PRIMARY SCHOOLS IN MUCWINI
SUB-COUNTY”.

This research has been supervised and approved. It is now ready for submission to the
examiners of Kampala International University with due approval as supervisor.

Sign:.....

MR. MIKE ODONGO.

Date:.....

DEDICATION:

This research report is purely dedicated to my beloved children Anena Beatrice, Pacoto innocent, Aromorach Franka, Oballim Christopher Demar, Openycan Jackline, Opio Ceasor, Kibwota Dacus, Aciro Jane, Alaroker, Ocitti, Can Oroma Getrude Grace, Aber Lilly, Amony Nancy, Aceng Jolly Gladys, Ogenrwot Aron my wife Abalo Chalo Mary, Mrs and my deceased parents the late Sebastian Obone, Langom Neckolina, My deceased brother Otema Francis and my sistors Aciro Christine and Arach Magaret. Not forgetting my uncle Mr. Olanya VK who contributed to My Education and his wife Mama Aneno Hida. Who gave me words of encouragement in my endeavour to reach this far.

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TABLE OF CONTENT

DECLARATION	i
APPROVAL	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENT	v-vi
LIST OF TABLES	vii-viii
ABSTRACT	ix-xii
CHAPTER ONE: INTRODUCTION TO THE STUDY	
1.0 Introduction	1
1.1 Background to the study	1-3
1.2 Problem statement	3-4
1.3 Purpose of the study	4
1.4 Objectives of the study	4
1.5 Research Questions	4
1.6 Scope of the study	4-5
1.7 Significance of the study	5
1.8 Limitations of the study	5-6
1.9 Operational definition of terms	6
1.10 Conceptual frame work	7
CHAPTER TWO: LITERATURE REVIEW	
2.0 Introduction	8
2.1 Theoretical Review	8
2.1.1 Relationship between learning & Performance	8
2.1.2 Pavlov's classical conditioning theory of learning	8
2.1.3 Hull's need reduction theory of learning	8
2.1.4 Social learning theory	8-9
2.2 Actual Review of related literature	9
2.2.1 What is Mathematics?	9
2.2.2 Real Objects and performance of Pupils	9-10
2.2.3 Printed Materials and Performance	10-11
2.2.4 Group discussion and performance	11-13

CHAPTER THREE: METHODOLOGY

3.0 Introduction	14
3.1 Research design	14
3.2 Population of the study	14
3.3 Sampling method	14-15
3.4 Data collection method	15
3.4.1 Interview	15
3.4.2 Observation	15
3.4.3 Questionnaire	15
3.5 Data Collection instruments	15
3.5.1 Interview guide	15-16
3.5.2 Questionnaire	16
3.5.3 Documentation review	16
3.5.4 Focus group discussion	16
3.5.5 Observation check list	16
3.6 Procedure of data collection	16
3.7 Data analysis	16
3.8 Data reliability and validity	16
3.9 Ethical consideration	16

CHAPTER FOUR: DATA PRESENTATION, DISCUSSION AND ANALYSIS

4.1 Introduction	17
4.2 Data presentation	17-31
4.3 Discussion and analysis	31-36

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction	37
5.2 Summary	37-38
5.3 Conclusion	38-39
5.4 Recommendations	39-40

BIBLIOGRAPHY:	41-42
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APPENDIX A	43
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APPENDIX B	44
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APPENDIX C	45
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LIST OF TABLES

Table A: Showing the study population	14
Table B: Showing selection of Respondents	15
Table I: Respondents of the study.	17
Table 2: DEO, SMC and Head teachers' responses on the adequacy of real objects in schools	18
Table 3: Parents and Pupils responses on adequate real materials in schools.	18
Table 4: Head teachers and teachers' responses on the frequency of using real objects in classes.	19
Table 5: School management committee responses on the frequency of using real objects in lesson delivery.	20
Table 6: Teachers responses on whether they make their own teaching resources.	21
Table 7: Teachers' responses on teacher-learners' relationship in using real objects in class.	21
Table 8: Pupils responses on the existence of teacher-pupils relationship in using real objects.	22
Table 9: Teachers responses whether pupils understand better when they see real objects used in class.	23
Table 10: Showing responses of D.E.O, head teachers and SMC on the use of real objects as teaching aids.	23
Table 11: Showing Pupils and teachers responses towards the adequacy of printed materials.	24
Table 12: SMC and Parents' responses on adequacy of printed materials in schools	25

Table 13: The Head teachers’ / Teachers’ and pupils responses
on the quality of printed materials used . _____26

Table 14: Teachers responses on the use of text books and other
printed materials _____26

Table 15. Pupils responses on the use of printed materials in class. _____27

Table 16: Teachers and pupils responses on group discussions
to aid learning _____27

Table17: SMC and Parents’ responses on the existence of
group discussions in schools. _____28

Table 18: Teachers Qualifications _____29

Table 19: Responses of key players in Education on factors
responsible for poor mathematics abilities in learners. _____30

ABSTRACT:

This study was undertaken to investigate the effect of teaching aids on the performance of pupils in Mathematics in primary schools in Kitgum District. The case of selected primary schools in Mucwini Sub County.

A qualitative research technique was selected to this study using a variety of research instruments.

The subject in the study included the D.E.O, 3 head teachers, 32 teachers, 196 pupils, 80 parents and 24 School Management Committee who were randomly selected.

The instruments that were used in the study included self constructed questionnaire and interview guides.

The data obtained from the study was analyzed qualitatively. Frequency tables and percentages were used to present and analyze the data. Data obtained from the interview were equally analyzed.

The researcher made summary of the major findings of the study arising from the research questions as presented below:

- There is inadequacy of instructional materials provision at Lagotcugu CC Mucwini Sub County.
- Training of teachers has a great impact in the teaching learning process. Thus enhances pupils' academic performance.
- Teachers' laxity and lack of commitments in teaching and incompetence in using instructional materials cause pupils not to receive proper teaching and can not read, interpret and write Mathematical statements in words form correctly. Such pupils lose interest in Education and perform poorly.

- Many parents have negative attitude towards Education such that they cannot raise or do not want to pay additional money levied for uniforms, exercise books and mid- day meals among other things.
- Children's rights have given too much freedom to pupils which have affected their level of discipline.
- Lack of individual pupil's attention. There is less individual attention by teachers due to the big U.P.E numbers.
- That there is no group discussion formed in most schools to aid learning and discovery processes.
- That the availability of teaching learning aids is very important in the teaching-learning process to promote meaningful learning and effective communication.

Arising from the discussions and summery of the findings of this research projects, the researcher arrived at the following conclusion.

Teaching aids has great effect in enhancing pupils' academic performance in Mucwini Sub County. It further revealed that trained teachers are adequate on the ground.

- Group discussion has impact on learners' academic performance and aid in memory recalls and systematic reasoning of the pupils yet lacking in the schools visited.
- That there is inadequacy in provision of printed materials in most schools. This inadequacy has very much affected teaching because teachers can not guide pupils practically hence, all the teaching is theoretical.
- Lack of mid-day meals. Schools do not provide lunch to pupils yet it's one of the real objects that stimulate learning.

- Parents do not provide enough scholastic materials to their children. For example the data revealed that most of the pupils lack school uniforms and Mathematical sets.
- Lack of individual pupil attention. Most of the respondents visited said that there is less individual pupil attention by teachers due to the big U.P.E numbers.
- There are very many curriculums in operation in schools. This is misleading most teachers.
- A teacher work load expands beyond the normal class time to the tedious process of preparing lessons plans, looking for teaching aids, monitoring individual process of learners and other activities that come with the job.
- The New vision Newspaper between January and March 2001, of the 150 candidates interviewed, only 2 (1.3%) wanted to become teachers, the reason given to avoiding teaching profession generally points to the unattractiveness of the teaching profession. Yet these stars attribute their success to teachers.

The researcher arrived at the following recommendations arising from the findings of this study:.....

- The pupils should form discussion groups in order to get or share knowledge among themselves so as to perform well in exercises and overall grade pass.
- Revising the current teaching syllabuses which appear to be too academic to incorporate skills that are commensurate with the current trends of development
- Ministry of Education and sports should provide schools with the necessary materials e.g. teachers' reference books, pupils' text books and other print materials.

- It should also pay commensurate attention to the teachers' welfare (accommodation and salary).
- It should further strengthen CPD of teachers at level for quality service delivery
- Head teachers should supervise the teachers to make sure that they adequately prepare for teaching exercise through making schemes of work, lesson plans and instructional media in time.
- Head teachers, SMC and local Council. Should also convene parents meetings to sensitize them on their roles in Education of their children and also the need to provide scholastic materials and lunch to their children.
- The ministry of Education and sport should advocate for children's rights to be revised, to give some room for disciplining in schools.
- Guidance and counseling services should be intensified in the schools to enable children makes informed decisions about their future career.
- Schools should be encouraged to participate in Science and Technology, social studies, Mathematics and English fairs, so as to produce more instructional materials from locally available resources.
- The Public Authorities and leaders of education institution to ensure that the teachers' working condition, social security arrangement, pension schemes and salaries are attractive and are comparable to those applicable to other professions requiring a similar level of qualifications.
- The government should strengthen and implement action to respond to health and safety incidence such as lighting, floods, fire, high commodity prices and other natural disasters which have impacted greatly on the teaching and learning processes.

CHAPTER ONE: INTRODUCTION.

.0 Introduction.

This chapter examined the background of the study, problem statement, purpose of the study, objectives of the study, research questions, scope of the study, significance of the study, limitations, operational definition of terms and conceptual frame work.

.1 Background to the study.

Mathematics is a discipline of symbols. It is one of the practical science subjects on the ground in most learning institutions. It started long time back in the period when man started counting things by matching the actual quantity with concrete objects like stones, seeds and beads by then.

Since then, it has been argued by most educators that in order for learners to understand the mathematics concept; teachers should involve and use teaching aids because the availability of learning resources enhances the effectiveness of schools as these are basic things that can bring about good performance in learners.

According to World Bank report (2007) in most developing countries not enough mathematics teachers are being produced by universities and colleges. Therefore, colleges and universities are being encouraged to pursue these courses to fill the gaps that exist in schools.

Bama (2004) asserts that parents have the primary responsibility of instilling an ethic of hard work and educational achievements in their children. He went further to say that if we are to make the investments required to revamp our schools, then we will need to rediscover our faith that every child can learn and none is neither stupid nor impossible but perhaps slow learners.

Piaget (1964), stated that "mathematics concepts do not only first appear in children automatically as they grow and develop in a child over a period of time". Therefore when teaching mathematics the emphasis should be put on the use of apparatus, equipments with appropriate methods for mathematics to be taught and learnt well

The Convention of the child rights (2001) states that children have a right to live and develop to their full capacity through provision of adequate care during the early years. The best foundation laid in the early years of the child has so far reaching benefits to the individual child as well as the society

specially when they are supported physically, mentally, socially, spiritually, emotionally and morally. There will be increased involvement progress and school performance which later will be linked to increased economic productivity.

DSI (Plan, Do, See, Improve) approach stresses on the need for the learners to carry out a well planned learning activity that involves seeing for them and improving their capacity even further for effective learning to take place. This is based on the findings of Yadar (2007) and UNESCO (2008) which postulate that an object well handled practically impresses itself more firmly in the mind than the object merely seen from a distance or in an illustration.

In Uganda, the legacy of colonial education and political economy of post independence Uganda have led to an education that favours the most advantaged pupils. Pupils in most public schools are disadvantaged in that the classes are over crowded and they do not have adequate learning facilities. Consequently, they do not get individual attention from their teachers. As quoted by the daily monitor of July, 2011 “Teachers start strikes over poor salaries and high commodity prices that rocked the Country”. The teachers are demanding a one hundred percent salary increment. Currently a primary teacher earns about Shs. 270,000 per month, a logistic too little to support a professional teacher. This drastically affects performance.

According to New Vision (2009), the analysts of primary leaving examinations results per subject for the last five years shows that 170 candidates failed Mathematics, 131 failed Science, 130 failed Social Studies and 166 failed English. Ranking Mathematics as the subject worst done.

As a strategy, Uganda National Examinations Board has availed mathematics teachers with ways of addressing gaps in mathematics and tasked teachers with the provision of teaching learning aids and government have trained teachers on how to improve learning materials where necessary through activity, students, experiment, improvisation and plan.

The teaching activity should be student centred and child friendly based on experiment and improvisation if Mathematics is to be done well. For instance the teaching and learning of longitudes and latitudes in mathematics can be accompanied by improvising a metallic or plastic globe and using it in locating the position of an object along the equator.

Now days mathematics is taught in schools to fulfill its functions, aims and objectives of

providing a mean of communication which is powerful, concise and unambiguous. It helps in presenting information in many ways through the use of numerals, tables, charts and diagrams in form of graphs. Developing powers of logical thinking and spatial awareness, to predict the outcome of events which are yet to take place and deduction of possible solutions in solving problems. This has led to arousal of mathematical interest and made appeals in the senses of many children and adults to like mathematics.

To make mathematics subject excels as others, teaching learning aids if employed technically in the learning of mathematics, would minimize the blames which are carried yearly.

It was upon this background that the researcher investigated the contribution of learning aids in the teaching of mathematics in primary schools of Mucwini Sub-county and has been empirically tested by this research project.

.2 Problem statement.

Most teachers are trained and have clear goals to guide their teaching, but good teaching and learning materials seem not to be seen in most mathematics lessons. Mathematics is a compulsory subject up to secondary school level. During the last couple of years, performance

in mathematics in national examinations has dropped significantly and this has been a major concern for the society. The Uganda National Examinations Board has continued to raise concerns over the poor performance in mathematics they identified coverage of syllabus and practice, inability to master simple and basic concepts as reasons for poor performance in mathematics.

Performance of pupils in upper primary classes in mathematics in Mucwini Sub-county is declining yearly. Such decline has worsen the already existing problems of inadequate classrooms, laziness of teachers, inadequate content coverage, poor sanitary and hygienic facilities and above all poor follow up of contemporary issues in schools. On the other hand, Pupils' indiscipline and bad social behaviours is another cause for pupils' poor performance. Pupils who are constantly absent in school make them more likely to perform poorly since they cannot keep up with their school work.

For these reasons, ministry of education and sports has put mathematics and English as the yardstick of measuring the potential of all the learners who are being administered and teachers who are being employed. Much as mathematics is considered as a fundamental subject at all levels of learning, the performance of pupils in mathematics in primary schools in Mucwini Sub-county is bad as reflected in PLE results and termly assessment records yet learners like the subject and most of them perform fairly during lesson sessions but the concept will not last long. It has also

It has been observed that pupils learn mathematics purposely to pass examination, which is a clear indication that today the teaching and learning of mathematics in primary schools is only geared towards passing examinations. Here teachers' emphasis is on the memorization of the formula, skills, concepts and very little is done to make the children develop creativity and imaginative skills of the subject. The factors which could have limited the performance of the pupils in mathematics are poor teaching methods, too much work given to the mathematics teachers, shortages of finance and many other not mentioned here, make the subject teachers to be blamed.

From the available evidence it is certain that government have recruited and trained adequate teachers for the discipline, financed education and provided text books plus other scholastic materials to be used in schools in an attempt to combat inadequate learning aids in schools yet the results of pupils in mathematics in primary schools in Kitgum District, Mucwini Sub-county continues to be bad every year. This trend in poor performance has triggered the researcher to investigate the impact of learning aids on the performance of pupils in mathematics in primary schools offered by this research finding.

.3 Purpose of the study

The purpose of this study was to examine the effects of learning aids on the academic performance of Mathematics pupils in Kitgum District.

.4 Objectives of the study.

The study was guided by the following objectives:-

- .4.1 To examine how real objects affect performance of pupils in Mathematics subject in Kitgum District.
- .4.2 To find out the extent to which printed materials affect academic performance of pupils in Mathematics in Kitgum District.
- .4.3 To assess the contribution of group discussion on performance of Mathematics pupils in Kitgum District.

.5 Research questions:

The study addressed itself to the following research questions:-

- .5.1 How do real objects affect performance of pupils in Kitgum District?
- .5.2 To what extent do printed materials affect performance of pupils in Kitgum District?
- .5.3 What are the contributions of group discussions on performance of pupils in Kitgum District?

.6 Scope of the study.

Geographical scope

The study was conducted in Mucwini Sub-county located in Kitgum District. Kitgum District is located in northern part of Uganda in Chua County which comprises of ten Sub-counties namely; Drom, Namokora, Omiya Anyima, Lagoro, Kitgum Matidi, Mucawini, Amida, Labongo Layamo, Akwang and Kitgum Town Council. For the purpose of this study Mucwini Sub-county was selected. It borders Lamwo District in the north and West, Namokora Sub-county from the North East and Kitgum Matidi and Omiya Anyima sub-counties in the South.

It is located 24km from Kitgum town following Kitgum – Madi Opei road. Mucwini Sub-county comprises of 13 primary schools but samples of two primary schools were taken for this project which gave ample presentation of the situation on the ground.

Time scope

This study covered the period between 2007-2010. This period was specifically chosen because it depicts the time when the area received relative peace as a result of the stoppage of Kony Lord Resistant led war in Northern Uganda.

.7 Significance of the study.

The study shall be of importance to a number of stakeholders:

To the government, the study will go along way to provide adequate data on the use of teaching aids in mathematics and how government can channel appropriate resources to their redress.

To policy makers, the finding of this study shall help policy makers to provide appropriate policy guidelines which may be instrumental in improving pupils' performance.

The findings may provide relevant update literature for academicians interested in carrying out research in similar field.

The findings may help the school administration to solve problems associated with poor performance in mathematics and may act as a eye opener to make them come up with a strategy to improve performance in mathematics.

Local community who are the direct beneficiaries, the study shall help them by identifying the weaknesses of the school and how best to address them.

.8 Limitations of the study

The study was limited to a number of issues especially finance. The resources available to the researcher were not adequate due to the sky-rocketing prices of commodities. However the researcher addressed this problem through following the budget guidelines strictly. The problem of time was yet another factor. The time allocated to the researcher was too short to cover this wide area. However, the problem was handled by sticking to a work plan drawn by the researcher.

.9 Operational definition of terms:

Teaching-learning aids:

An object or item used in the teaching and learning, mathematics lessons with intentions of making teaching-learning situations easier and more effective. These learning aids include materials like text books, wall charts, planned board, Abacas, graphs and boxes.

Performance;

An outcome of some work; In this context, the result of primary leaving examination (PLE), indicates the magnitudes of outcome.

Effects:

This is an outcome of a course which is considered in this context. This outcome is uncounted by the use of teaching-learning aids.

Upper Primary Classes;

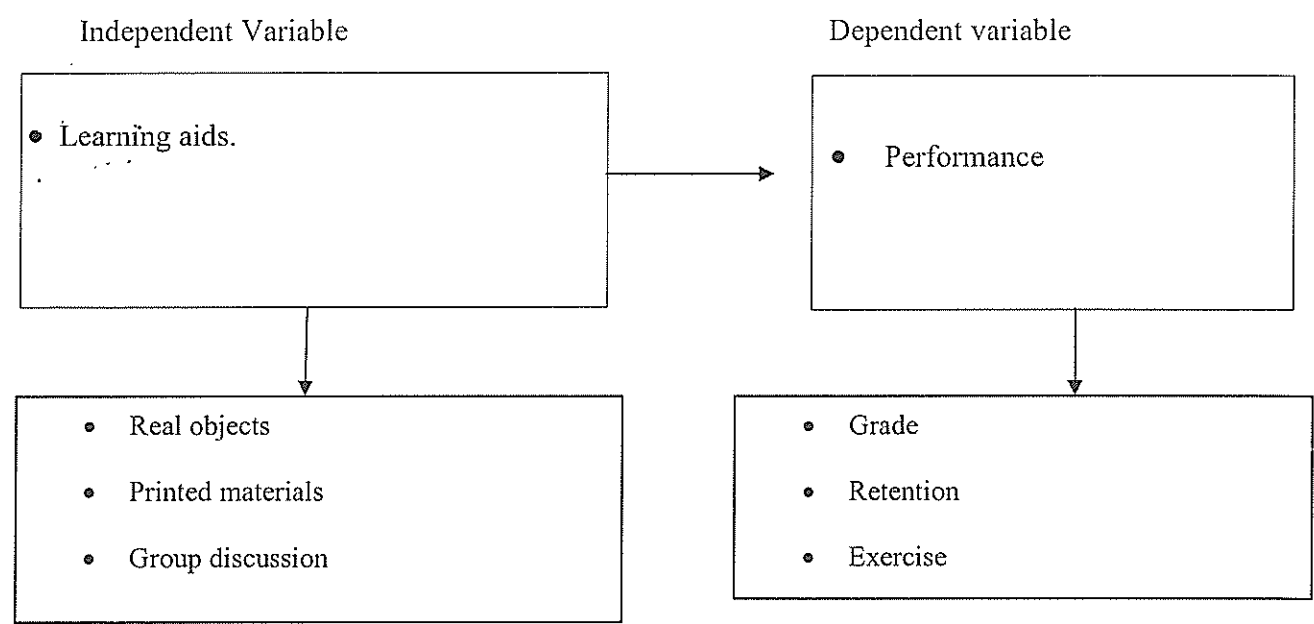
This is a section of an advanced primary study, the classes start from P.5 up to P.7.

PE

Inclusive education for the school going age children in Uganda.

.10 Conceptual frame work:

The conceptual frame work showing relationship between learning aids and academic performance.



From the above conceptual frame work, it can be seen that independent variables affects the dependent variables as indicated by the arrows.

Further attempts to investigate the extent to which real objects, printed materials and group discussion affect grades, retention and class exercises. The dependent variable was conceived as performance. If the dimension under independent variable is kept constant/maintained, it can lead to improved grades, retention of teachers and pupils will be eager to complete their assignments in time.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction:

This chapter comprises of theoretical review and actual review of related literature. This was done subjective by objective.

2.1 Theoretical review.

A theory provides detailed systematized information of an area of knowledge. It serves as guide lines to conduct further research in the area of concern. It provides new facts or supplements the previous facts. It gives an organized explanation about a phenomenon. It provides practical wisdom and effective guidelines.

2.1.1 Relationship between learning and performance.

The process of learning is invisible. It lies within an individual and can only be expressed when there is opportunity or when an individual is stimulated or motivated. Therefore, when studying learning psychologists study the changes in behaviour or performance that are due to learning using theories.

2.1.2 Pavlov's classical conditioning theory of learning.

This theory of learning explains learning in terms of a connection or an association between a stimulus and a response (S-R). The stimulus is usually in the environment. The response is the behaviour elicited. Stimulus causes behaviour, behaviour comes before the stimulus is emitted to strengthen or weaken it.

For example a child does something wrong and you get a stick, when you raise the stick the child becomes frightened, cry, begins trembling, running e.t.c.

The stick elicits a response which is fear.

2.1.3 Hull's need reduction theory of learning

This theory holds that association between (S-R) is not enough for learning. According to his views, some kind of reward or other reinforcement was necessary to establish the stimulus as signal. Hull emphasized the importance of the satisfaction of the children. These needs could be reduced or satisfied through some reinforcement.

2.1.4 Social learning theory.

This is learning by observation. Albert Bandura is one of those who advocates for this theory who believed that learning can be achieved through seeing, observing and admiration.

For the purpose of this research project the social learning theory shall be adopted to study the variables to arrive at the intended objective of the project.

2.2 Actual Review of related Literature

2.2.1 What is mathematics?

A. Stanley thorn (1988) defines mathematics as characteristics way of organizing our experiences of the world of which we are employed, wherever there is a pattern or 'structure'. He continued by saying as such it may enrich our understanding, enabling us to live well and giving us pleasure.

Borich G (1996) said, he wonders what would be happening in terms of telling the qualities of sizes, length capacity, temperature and many others. If there were no ideas of numbers existing.

According to castle (1965), "mathematics is a foundation of technical, industrial and economic advancement without which it would be impossible to live in the modern world".

Carroll. J (1963) defined mathematics as "a tool" which is applied in finding other needs. He stated that mathematics acts as a vehicle which carried other subjects to their points of interests.

Fujis D et al (2001), mathematics is a language because it provides a medium of communication in terms of pie charts, tables, bar graphs and in numerical symbols. So the concepts in mathematics must be understood clearly by the learners, otherwise other subjects may become meaningless to them. Mathematics has important implication in many other field for example, science, engineering, social science, and management. Mathematics is not only useful to the learners in the classroom but has significant proportion in the future career of the learners.

2.2 Real objects and performance of pupils

Howard et al (1967) stated it clearly that if a teacher is creative enough then an empty class, a class with the pupils itself is a mathematics learning aid.

He continued by saying that, teaching the concepts such as, surfaces of cuboids, vertices, edges and capacity, measurements can be built using the classroom.

Many educators suggest that for the mathematics classroom to be rich enough that can ease learning of mathematics concepts, it must contain the following.

) The equipments for drawings, colouring pictures, places for hanging pictures.

- (ii) Children's reference books, these are textbooks of different levels by different authors.
- (iii) Chalkboard fixed and transportable ones.
- (iv) Physical materials such as abacus. Measuring instruments such as thermometer, wall clock, weighing scale and many others.
- (v) The room should have teaching aids that are made by the learners in the guidance of their teachers. For examples, number pattern cards, clock face card, geometrical models which are made from cards, woods and ropes.

According to Brunner (1960) the teacher should provide mathematical problems with required materials as well as proper instructive guidance. This situation gives learners opportunities to be creative and skilful in problem solving approaches.

Lock craft (1990) stated that, for mathematics to be practical, teachers should expose the learner to an environment to deviate, stand different in creating something using natural resources in the teaching process.

Zudar K (2001) argues that, environment plays a big role in providing local materials such as tomatoes, oranges, ropes molded bricks. These items should be brought, used in the learning of mathematics, Pupils will only differentiate a two dimensional object from a three dimensional object after seeing and touching the physical object.

Skinner (1985), which postulates that student motivation to under take a task, depends on expected reward. Efficient learning will take place when there is strong motivation of learners to learn by the teacher. Students should therefore be motivated through various ways which may include advising them on career choices, providing the required physical facilities. This will go along way in improving the performance of the subject under study.

2.3 Printed materials and performance

Garratt J.S (1994) defined learning aids as materials or stimuli that are organized in the learning situation by the teacher to make learning simplified. These materials are chosen in accordance to the content and methods organized for a particular level, ability interest and past experience of the learners. These materials include many items such as: Textbooks, Workbooks, Periodicals, magazines, news papers e.t.c), Pamphlets, Assignment, cards, Flash cards, Maps, atlas and globes. Other materials are:- Specimens, Models, Dioramas and Puzzles. All these materials above are more convenient in stimulating learner's experiences rather than using real things.

When one is selecting teaching learning aids there should be common qualities in them such as availability and must cater for the needs, interests and ability of the learners, it should work best in the space available, it should not consume other subjects time.

Sammon P (1999) stated that, the way children understand certain concepts in mathematics teaching with the use of learning aids will deeply build the true picture of the subject in the child's heart in future. Therefore the learning environment should be well arranged with learning aids.

Patilla P (1999), then stated that the child's environment is described as a place being filled up with rich objects of various shapes and sizes only if he or she can see, touch, smell and feel with all the senses.

S. Farrant (1994) stated that, "learning" aids arranged in the classroom acts as references for illustration of concepts, most teachers are afraid of them not being artistical in the use of chalkboard, but teachers should only collect all kinds of things he commonly wants to illustrate the meanings. He clarifies that the proper chalkboard illustration that teachers fear to follow must be

- Simple in outline
- Not complicated with details.
- Easy illustration to draw quickly.
- Clearly visible from the back of the room.

He continued by saying that, these requirements can be constructed out of the simple geometrical shapes or your own collection of pictographs for examples, household articles such as plates, chairs, and boxes e.t.c.

Maicibi N.A (2003) stated that, a teacher himself may say, "why bother with all of those visual aids? I can manage without them"

He stated that, "learning aids use all the five senses of the learners in the teaching learning process."

- 'Hearing' is used through the audio aids materials such as cassette recorder.
- 'Sight' is used through visual aids like charts, posters, and printed resources such as handouts, pamphlets, and books.
- 'Touch' is used through resources such as specimens and models, realia.
- 'Taste' and smell are employed in the experiment or practical activity like cookery.

He continued by saying that more than five senses can be combined in audio visual aids such as films.

2.2.4 Group discussion and performance:

Cock craft (1980) in the reports stated that teaching learning aids in mathematics lesson help in these ways:-

- (i) To introduce some important concepts and content to the learners in a more meaningful way.
- (ii) To provide pupils with quality information and knowledge that can directly support the concepts development.

Kalejaiye (1994) stated that, the selection of learning aids often follows the proper choice of methods of teaching that are appropriate to the content. Bearing in mind that learners are in the stage of concrete operational development, teachers should know what is meant by learning aids properly before they bring in the learning process.

Jamson (1995) says that a wide variety of learning aids help teachers to maintain a constant formative evaluation of each learner's progress.

It is very much true in the sense that, use of learning aids makes the child's skills of creativity to be recognized and help in that directive respectively. Therefore, teachers are expected to have a variety of learning aids so that learners have the chances of exploiting their talents.

Koech .P.L (2006), talks about 'discovery' skills which should be built in the learners. If the materials are availed in a learning situation, the learners would then find it flexible to discover the facts behind the expectations of the teachers on their own.

He continued to say, it is not teachers' work to spoon feed learners with the facts, but it is learners responsibility to dig for the solutions on their own.

In conjunction to that view. Grant (1964) says, the role of the teacher is to guide learners on how to bring the required materials necessary for learning, then learners use available local materials within their environment to stimulate their learning.

Haddley .G. (1985) said children in the upper primary classes who are taught mathematics using variety of learning aids are always confident for the subject, they perform it very well and they continue doing it in high institutions. But since teachers have neglected practical teaching, although children perform well at P.L.E many of them don't do well at secondary level.

Austin J.L (1979) argues: - that a good aid helps to overcome the limitations of word by verbal communication. It also appeals to the learners through the use of many senses as possible at the same time.

He continued by saying that, learning aids form point and attracts attention of the learners, arouse interest, promote retention of memory, stimulate imagination and encourage the learners to consolidate on what they have learned.

A variety of learning aids in the classroom and any other learning situation promote a desire to learn incidentally without the teacher. Therefore, teachers should use the right aids, at the right time, in the right place, in the right manner when they are teaching mathematics.

According to ministry of Education and sport (MOES) 1999, bad school experiences are also a large contributor of the school poor performance. This is because no one pushed them to try other. This student fill that school was not important enough to try hard at. These students also said they did not have much attention given to them when dealing with their school work.

CHAPTER THREE:

METHODOLOGY

3.0. Introduction.

This chapter introduces us to the research design, population of the study, sampling methods, data collection methods, data collection instruments, procedure of data collection, data analysis, data reliability and validity and research gap.

3.1. Research Design

The researcher used survey design. Qualitative methods were used to assess the impact of learning aids on the performance of pupils in mathematics in upper primary classes in Kitgum District, Mucwini Sub-county while quantitative methods were applied through the use of tables, charts, graphs among others.

3.2. Population of the study:

The study was conducted in two primary schools of Mucwini Sub County, Kitgum District out of 11 Government Primary headed schools and two private Primary schools in the Sub County.

The two Primary schools were Lagotcugu P/S in Pubech Parish and Okol Primary school located in Okol Kal Parish. These two schools were selected because they are located within the researcher's area of work.

Table A: Showing the study population

School	Parish
Lagotcugu P/S	Pubech
Okol P/S	Okol Kal

Table A showing the study population taken from Lagotcugu Primary school in Pubech Parish and Okol Primary school found in Okol Kal Parish Mucwini Sub County Kitgum District.

3.3. Sampling methods:

Two government grant aided primary schools in Kitgum District, Muewini Sub-county were sampled using simple random sampling technique to give a representation of all categories of schools in the Sub-county.

Sample frame consisting of headteacher, teachers, Parents, Pupils and school management committee were administered.

Table B: Showing selection of Respondents

Respondents	Number	Sample
Key important people (DEO, Headteachers)	3	3
Teachers	36	32
Pupils	400	196
Parents	100	80
SMC	26	24
Total	565	335

From the above table, the DEO was reached and two headteachers of the selected schools were also reached, 32 teachers out of 36 teachers were sampled, 196 out of 400 pupils were used, 80 parents out of 100 were reached and 24 SMC members out of 26 were administered as summarized in the above table to give ample information for the project.

4. Data collection methods:

While in the field, the researcher used the following methods of data collection

4.1 Interviews. The Researcher applied interviews through asking questions that were relevant to the topic orally and the interviewee answered them freely.

4.2 Observation. Here the Researcher used the naked eye to see the phenomena under investigation.

4.3 Questionnaire. The researcher used written down questions developed in advance and send them to the respondents to answer. The method was used to gather data from students and teachers.

5. Data collection instruments:

The researcher used the instruments explained below.

3.5.1 Interview guide:

Interviews guide were administered to the Headteacher, Parents, Pupils and SMC. This gave an account of the effects of teaching learning aids of pupils' performance in mathematics.

The interview guide was directed towards what to be done in order to improve on learners' performance in mathematics.

The interview guide was design to extract information on the factors that have influenced the performance of pupils in mathematics.

3.5.2 Questionnaire:

This contained questions whose answers were to be provided by the respondents that is the headteachers, head of mathematics departments, mathematics teachers, and class teachers. The questionnaires were given earlier to the respondents to fill in the answer and the researcher moved around to collect the filled questionnaires after a week. The questionnaires were open ended and close ended.

3.5.3. Documentation review:

The researcher obtained the information from the headteacher, head of mathematics department, mathematics teacher and class teacher through consulting their documents related to the objectives of the study. Records of learner progress were also examined.

3.5.4. Focus group discussion. The researcher assembled a group of respondents together for the purpose of discussing factors affecting performance of pupils in Mathematics. This was administered to SMC and teachers.

3.5.5. Observation checklist. To beat the time pressure, language barrier, and biasness, observation checklist was administered to gather information in the field.

3.6. Procedure of data collection:

After approval of the research proposal, the researcher got an introductory letter from Kampala International University which he presented to the District Education Officer Kitgum where the DEO thereafter wrote another letter introducing the researcher to the respective headteachers of the sampled schools who also introduced him to his/her staff and pupils and made an appointment on when to carry out or conduct the proposed activities with them.

3.7. Data analysis:

Data were first edited and later presented on tables and percentages among others and afterwards the data were then analyzed accordingly in chapter four.

3.8. Data reliability and validity:

The data were first pre-tested on a small group of people in Akara Parish and later the same groups were reached and the data compared. This was done to ensure reliability of the information on the ground.

3.9 Ethical consideration:

The researcher took concern over all possible unethical conduct that was tended to jeopardize the research process and outcome.

CHAPTER FOUR: PRESENTATION, DISCUSSION AND ANALYSIS:

4.1. Introduction:

In this section, the core of the study is presented. The data collected from the respondents are analyzed and the discussion is presented in accordance with the research questions and objectives of the study.

4.2. Data Presentation:

The findings were presented using tables and percentages on the basis of the following research questions.

Research question I.: How do real objects affect performance of pupils in Kitgum District?

Research question II. To what extend do printed materials affect performance of pupils in Kitgum District?

Research question III.. What are the contributions of group discussions on performance of pupils in Kitgum District?

A total of 335 respondents were used as summarized in the table below.

Table I: **Respondents of the study.**

Types of Respondents	Number of Respondents
DEO	01
Head teacher	03
Teachers	32
Pupils	196
Parents	80
SMC	24
Total	335

4.2.1. Research question I: How do real objects affects performance of pupils in Kitgum District?

a) Adequacy and use of real objects. The researcher wanted to establish whether inadequacy and use of real objects has an effect on pupils' academic performance. DEO and Head teachers were therefore asked. "Do you have adequate real objects in your school? Their responses are presented in table below.

Table 2: DEO, SMC and Head teachers’ responses on the adequacy of real objects in schools

Type of responses	Number of responses	Percentage of responses
Very adequate	00	00
Adequate	20	34
Not adequate	39	66
None	00	00
Total	59	100

The results of DEO, SMC and Head teachers rating on adequacy of real objects supplied in schools indicate that 66% suggested that in most schools the supply of real objects is inadequate to cater for the increased pupil population under UPE scheme and only 34% accepted that the supply is adequate.

Parents and pupils were asked “Do you have adequate real materials for teaching in your School?” Their responses are presented in the table below.

Table 3: Parents and Pupils responses on adequate real materials in schools.

Types of responses	Parents		Pupils	
	No. of respondents	percentage of respondents	No. of respondents	percentage
Adequate	20	25	40	20
Not adequate	60	75	156	80
None	00	00	00	00
Total	80	100	196	100

From the parents responses 20 out of 80 participants reported that their schools had enough real objects for teaching. This showed 25% of the respondents. On the other hand, 75% of the Parents reported that supply of real materials to schools is not adequate, similarly from pupils, 20% of them reported that Schools have enough real instructional media while 80% of the participants reported the inadequacy of real materials to aid teaching in schools.

The interviews with District Education Officer, and inspectorate, revealed that there is inadequate supply of real objects in schools. The researchers' personal contact with the school administrators of Lagotcugu Primary School and Okol Primary School also found that the numbers of real objects in these schools are inadequate.

b) Usage of real objects to aid teaching:

The Head teachers, teachers, pupils and school management committees were asked to rate the frequency of using real objects during lesson delivery. Their responses are presented in the tables below:-

Table 4: Head teachers and teachers' responses on the frequency of using real objects in classes.

Type of responses	No. of head teachers responses	percentage	No. of responses	Teachers responses
Very good	00	00	03	10
Good	01	50	13	40
Fair	01	50	16	50
Poor	00	00	00	00
Total	02	100	32	100

According to the responses elicited from head teacher and teachers concerning the frequencies of using real objects in lesson delivery, 50% of the Head teachers rated the usage as very good, and 50% also reported that the usage of real objects in teaching is fair. On the other hand 10% of the teachers who participated rated the use of real objects in class as very good, 40% of them rated the frequency of real objects in classes as good and 50% of the teachers reported that the usage of real objects by them in

lesson conduction is fair. None of the Head teachers and teachers rated the frequencies as poor.

The school management committees were asked several questions and their responses are shown below

Table 5: School management committee responses on the frequency of using real objects in lesson delivery.

Type of responses	No of responses	percentage
Very good	02	10
Good	17	70
Fair	05	20
Poor	00	00
Total	24	100

The responses of school management committee on the use of real materials showed that 70% of the participants rated the use of real objects as good, 10% as very good and 20% of them rated it as fair. None of them rated the use of real objects as poor.

Teachers were asked whether they make their own teaching aids. The responses are summarized below:

Table 6: Teachers responses on whether they make their own teaching resources.

Strongly agreed	Frequency	Percentage
Strongly agreed	26	80
Agreed	05	16
Neutral	00	00
Disagree	01	04
Strongly disagree	00	00
Total	32	100

The above result showed that 80% of the teachers strongly agreed that they make their own teaching resources while 16% agreed and 4% disagreed that teachers do not make their own resources and none of them was neutral or strongly disagreed.

Teachers were asked whether teacher- learners’ relationship in the management of real object is good and it enhances learning.

Table 7: Teachers’ responses on teacher-learners’ relationship in using real objects in class.

Response	Frequency	Percentage
Strongly agreed	16	50
Agreed	10	30
Neutral	3	10
Disagree	3	8
Strongly disagree	1	2
Total	32	100

As seen from the results above, the majority of teachers strongly agreed that the relationship of teachers and learners in management of real objects is good and it enhances learning, 30% were neutral, 8% disagreed and 2% strongly disagreed.

Pupils were asked whether the teacher-learners' relationship in the management of real objects is good and it enhances learning their responses were as bellow.

Table 8: Pupils responses on the existence of teacher-pupil relationship in using real objects.

Response	Frequency	Percentage
Strongly agreed	50	26
Agreed	118	60
Neutral	20	10
Disagree	08	04
Strongly disagree	06	00
Total	196	100

The findings above showed that 26% of the pupils strongly agreed that the relationships in the use of teaching-learning aids in class are good, 60% of them agreed, 10% Neutral and 4% of them disagreed while 0% strongly disagreed.

Teachers were asked do pupils understand better when they see real objects used in class?

Table 9: Teachers responses whether pupils understand better when they see real objects used in class.

Response	Frequency	Percentage
Strongly agreed	13	40
Agreed	10	32
Neutral	06	18
Disagree	03	10
Strongly disagree	00	00
Total	32	100

The above table revealed that 40% of teachers strongly disagree that pupils understand better when they see real objects used in class, 32 % of them agreed, 18% were neutral, 10 % disagreed and none of them strongly disagreed.

DEO, Head teachers and SMC were asked to give their view about the use of real objects as teaching aids to pupils.

Table: 10: showing responses of D.E.O, head teachers and SMC on the use of real objects as teaching aids.

Response	Frequency	Percentage
Strongly agreed	14	50
Agreed	7	25
Neutral	5	20
Disagree	1	05
Strongly Disagree	0	00
Total	27	100

The above table reveals the responses of D.E.O, Head teachers and SMC on the use of real objects as teaching aids to pupils. From the table, 50% of them strongly agreed that real objects enhances teaching learning process, 25% also agreed, 20% were neutral, 5% disagreed and 0% strongly disagreed.

4.2 Research Question two:-

To what extend do printed materials affect performance of pupils in Kitgum District?

The researcher wanted to establish whether the inadequacy of printed materials in schools affect pupils academic performance. The questionnaires for teachers, pupils and interview guides for D.E.O, Head teachers, Parents and SMC responses were administered. The following table shows teachers’ and pupils’ responses towards the adequacy of printed materials in schools.

Table 11: Showing Pupils and teachers responses towards the adequacy of printed materials.

Types of responses	Teachers		Pupils	
	No. of teachers	Percentage	No. of Pupils	Percentage
Strongly agreed	00	00	00	00
Agreed	02	04	12	06
Neutral	06	20	47	24
Disagree	24	76	137	70
Strongly Disagree	00	00	00	00
Total	32	100	196	100

According to responses received for teachers and pupils, 76% of the teachers who participated reported that they strongly disagreed that they do have enough printed materials which include text books, supplementary readers, maps, charts to mention but a few.

70 % of the learners said that supplies of instruction materials (printed in nature) are inadequate.

The table further revealed that some teachers and pupils said that the printed materials are enough

and some said adequate as seen in the percentages of 20% neutral response and 4% agreed responses of teachers and that of 24% neutral response of pupils and 6% agreed pupils’ responses. The school management committee including Head teachers and parents were equally asked on the adequacy of printed materials in schools. Their responses are summarized below:-

Table 12: SMC and Parents’ responses on adequacy of printed materials in schools

Types of responses	SMC		Parents	
	No. of SMC	Percentage	No. of Parents	Percentage
Very adequate	00	00	00	00
Adequate	12	45	24	30
Not adequate	15	55	48	60
None	00	00	08	10
Total	27	100	80	100

The responses from SMC including Head teachers and parents showed that there is inadequate provision of printed materials in schools as indicated by 55% of SMC who said that printed materials are not enough and 60% of the parents said there were inadequate printed materials in schools. Only 45% and 30% of SMC and parents respectively said printed materials are adequate and 10% of the parents said there are completely no printed materials in their schools.

When asked about the quality of printed materials received the teachers, Head teachers, pupils and parents rated the quality as very good and good. Only few said they are fair. The responses are shown in table 13 below.

Table 13: The Head teachers’ / Teachers’ and pupils responses on the quality of printed materials used .

Types of responses	Head teachers & Teachers		Pupils	
	No. of H/TRS& TRS	Percentage	No. of Pupils	Percentage
Very good	07	20	20	10
Good	28	80	168	86
Fair	00	00	08	04
Poor	01	00	00	00
Total	35	100	196	100

The District Education officer and education department Kitgum District were asked to rate the adequacy of printed materials in their schools in the District. The interview with them revealed that 57% Of them said the supply of text books and other printed materials are adequate while 33% said the instructional supply of printed materials are inadequate but this varies from school to school. The teachers were asked do you use text books and other. Printed materials effectively while teaching? Their responses are presented in table 11

Table 14: Teachers responses on the use of text books and other printed materials

Response	Frequency	Percentage
Strongly agreed	19	60
Agreed	09	30
Neutral	03	08
Disagree	01	02
Strongly Disagree	00	00
Total	32	100

from the above data, 60% of the teachers strongly agreed that they effectively used texts books and other printed materials to aid their teaching while 30% agreed, 6% neutral, 2% disagreed and 0% registered strongly agreed response.

Pupils were asked are text books and other printed materials given to you in class? Their responses are presented in the table bellow.

Table 15. Pupils responses on the use of printed materials in class.

Response	Frequency	Percentage
Strongly agreed	00	00
Agreed	20	10
Neutral	29	15
Disagree	98	50
Strongly Disagree	49	25
Total	196	100

The above table reveals that 50% of the pupils disagree with the statement that text books and other printed materials are provided to them to aid learning, 25 of them strongly disagreed, 15 were neutral, while 10% agreed and none of them strongly agreed with the uses of printed materials.

4.3. Research Question three

What are the contributions of group discussions on performance of pupils in Kitgum District?

Teachers and pupils were asked, do you have group discussions in your class?

The findings were tabulated below.

Table 16: Teachers and pupils responses on group discussions to aid learning

Types of responses	Teachers		Pupils	
	No. of teachers	Percentage	No. of Pupils	Percentage
Strongly agreed	00	00	00	00
Agreed	03	10	20	10
Neutral	06	20	29	15
Disagree	20	62	137	70
Strongly Disagree	03	08	10	05
Total	32	100	196	100

As per the responses elicited from the teachers and pupils 62% of the teachers disagree that group discussion is being taken care off in schools while 20% registered neutral responses 10% agreed that group discussion takes place and 8% of them strongly disagreed with the existence of group discussions in class with none of the teachers strongly agreeing on group discussion.

Similarly, 70% of the pupils disagreed with the existence of group discussions, 15% are neutral, 10% agreed, 5% strongly disagreed and none of the students strongly disagreed.

Table17: SMC and Parents’ responses on the existence of group discussions in schools.

Types of responses	Teachers		Pupils	
	No. of teachers	Percentage	No. of Pupils	Percentage
Strongly agreed	00	00	00	00
Agreed	05	20	04	05
Neutral	03	10	08	10
Disagree	16	60	56	70
Strongly Disagree	03	10	12	15
Total	32	100	196	100

The responses of the SMC including Head teachers and parents on the existence of group discussions showed that 60% of the school managers disagreed with the existence of group discussions, 20% of them agreed, while 10% were neutral and 10% also strongly disagreed.

Results from the parents revealed that 70% of them disagreed that group discussion exist, 15% strongly disagreed, 10% were neutral and 5% agreed. In each case strongly agreed responses were not registered.

Teachers were also asked “what are your professional qualifications?” this question was raised with the view of getting the teaching methods used by teacher with pupils’ engagement in lesson sessions to tap the existence of group discussions.

Table 18: Teachers Qualifications

Responses	Frequency	Percentage
Graduate	02	08
Grade V	04	12
Grade III	24	75
Grade II	02	05
Others	00	00
Total	32	100

The teachers' responses above indicated that 75% of them are grade III teachers, 12% of them are grade V teachers, 8% of them are graduate teachers, 5% of them are grade II teachers with 0% score as others.

Teachers, Head teachers, SMC, Parents and pupils were asked what factors contribute to the poor mathematics abilities in learners.

Their responses are presented on the table below.

Table 19: Responses of key players in Education on factors responsible for poor mathematics abilities in learners.

Poor foundation	40	12
Inadequate teachers aids	67	20
Negative attitudes towards mathematics	34	10
Teachers motivation/salary	50	15
Absenteeism of Head teachers, teachers, and pupils.	20	06
Inadequate career guidance	17	05
Teachers qualifications	7	02
Employment of pupils in petty jobs	13	04
Engaging pupils in household chores	13	04
Lack of mid day meals	50	15
Peer influence	07	02
Children’s rights	17	05
Total	335	100

The factors on table19 have been highlighted by different key players in our education system to be responsible for poor pupils’ performance in mathematics.

Inadequate teaching learning aids in schools was ranked first with 20% scores, followed by inadequate teachers motivation and lack of midday meals at school with a score of 15% in each case, poor foundation of the subject took 12%, negative attitudes towards the subject took 10% absenteeism followed with 6%, inadequate career guidance and children’s right followed with 5% score for each, employment of pupils in petty jobs and engagement of pupils in household chores took 4% each.

Teachers' qualification and peer influences were ranked least with 2% scores for each category.

In the above question the researcher wanted to find out weather the inadequacy of printed materials in schools have impact on pupils' academic performance especially in Mathematics the results revealed that there are inadequate instructional printed materials provided in schools to aid teaching learning process.

4.3 Discussion and analysis:

Research question one The question was how do real objects affect performance of pupils in Kitgum District?

According to the responses elicited in presentation of data of this chapter, the Head Teachers, teachers, pupils, parents , D.E.O and school management committee confirmed that real objects affect performance of pupils. Where 50% of Head teachers rated the use of real objects to aid teaching learning process as good, 40% of the teachers rated it as good. The data also revealed that there are inadequate real objects in schools and parents rated the inadequacy at 75%, pupils at 80%. It was also revealed that the few real objects in place do not tally with the vast pupils' enrolment under U.P.E scheme.

The findings the researcher found is in line with what was said by Brunner (1960) who said that the teacher should provide Mathematical problems with required materials as well as proper instructive guidance. This situation gives learners opportunities to be creative and skilled in problem solving approaches. Cock Craft (1990) also stated that for Mathematics to be practical, teachers should expose the learners to an environment to deviate and stand different in creating something using natural resources in the teaching process

The findings also revealed that most of the teachers in primary schools are Grade III Teachers which stands at 75%. Graduate teachers at 08%, Grade V Teachers at 12% and Grade II Teachers

at 5% as reflected in table 18. This implies that the teachers are capable of making real objects to be used in their lessons yet it is lacking.

In another development, Singahal (1998 : 105) explained that professional training provides trainees with a new knowledge. It sensitizes them to the new expectations of the people and helps them to acquire new skills and latest techniques for successful handling of their jobs. It also inculcates in them proper attitude in using real objects to aid teaching learning process.

The researcher agrees with the author that staff development courses are intended to help an organization achieve its purpose by adding values to personnel its employees. The Uganda Government under MOES argues that training is undertaken to equip staff with necessary skills, knowledge and attitudes to effectively use real objects in their teaching. Staff development is also expected to enhance the emotional satisfaction expected by the staff in their career.

Teachers response whether pupils understand better when they see objects used in class indicates that 40% of them strongly agreed with the statement, 32% agreed, 18% are neutral and only 10% of them disagreed, an indication that pupils understand better when they see real objects in class a move which is lacking on the ground.

This finding is backed by Skinner (1985), who postulates that student motivation to undertake a task depends on the expected reward. Efficient learning will take place when there is strong motivation of learners to learn by the teacher. Students should therefore be motivated through various ways which may include advising them on career choices providing the required physical facilities. This will go a long way in improving the performance in the subject under study.

The findings also release that teacher –Pupils relations in using real objects in class is good and is more effective in teaching English and social studies but not Mathematics and Science. However, the response of the respondents who participated showed that there are no remark differences in the usage of real objects while teaching in all the subjects. This is in line with the MOES (2000) which said that teachers-pupils relationships is good across the Country especially in schools

where corporal punishment has been abolished and the factor that influences performance seemed to be more in other variables than in the mode of their relationships

4.3.2. **Research question two**

The teachers were asked to what extend do printed materials affect performance of pupils in Kitgum District?

The results of the findings are presented in table 11 and 12 of chapter 4.2.

Table 11 represents the responses of teachers and pupils rating of adequacy of printed materials in schools to enhance effective teaching learning process.

According to the responses elicited in table 11, it is clear that there is inadequacy of supply of printed materials as shown by 76% and 70% of teachers and pupils disagreed responses.

Similarly, the responses in table 12 of SMC and parents revealed that 55% and 60% of SMC and parents showed that there is inadequate supply of print materials in schools for effective teaching learning processes thus affecting pupils’ academic performance.

Nziajah (2001) refers to the problems that schools face in these words “ The U.P.E Programme paralyses a number of scheduled activities in recipient schools. School usually run out of scholastic materials and printed aids. The findings above are further explained by Patiila P(1999) that the child’s environment is described as a place being filled up with rich objects of various shapes and sizes only if he/she can see, touch, smell and feel with all the senses. He adds that there is almost total absence of text books, equipments and other essential learning materials in schools. This is in line with Maicibi NA (2003) when he states that for any change and development or improvement in education, there must be adequate printed materials like text books, teachers’ guides and other teaching-learning materials. He referred to them as “tools for job”.

On the other hand Frant J.S (1994) defined learning aids as materials or stimuli that are organized in the learning situation by the teacher to make learning simplified. These materials are chosen in accordance to the content and methods organized for a particular level, ability interest and past experience of the learners. These materials include many items such as: Textbooks, Workbooks, Periodicals (magazines, news papers e.t.c), Pamphlets, Assignment, cards, Flash cards, Maps, atlas and globes. Other materials are:- Specimens, Models, Dioramas and Puzzles. All these materials above are more convenient in stimulating learner's experiences rather than using real things.

When one is selecting teaching learning aids there should be common qualities in them such as availability and must cater for the needs, interests and ability of the learners, it should work best in the space available, it should not consume other subjects time.

With encouragement and support, teachers interact with the environment and with each other through exploration and discovery. Therefore, teachers get skills and knowledge on how to use and operate other materials

When asked to rate the quality of instructional materials, the responses of teachers, Head teachers and pupils in table 13 indicated that 80% and 86% of Head teachers / Teachers and pupils respectively showed that the quality of few existing printed materials available are good while 20% and 10% of Head teachers/ teachers and pupils respectively reported that the quality is very good, for effective learning. Combs (1995) in support states that: there is correlations between printed materials and academic performance achievement of learners. He therefore, advocated that there should be adequate provision of printed materials resources in schools to enhance effective teaching-learning process.

In support of the above findings MOES (2003) confirms that good teachers need not to understand only the knowledge and content of different subjects in their syllabus but also to be able to use a variety of teaching skills, methods and materials that will help them achieve successful results.

In a nut shell, the researcher deduced from the findings that there is inadequacy in the provision of printed materials in most of the schools. This inadequacy has very much affected the pupils performance, grade retention and exercise. Teachers can not guide pupils practically hence all the teaching is theoretical. In support of the above findings, Nacino (1980) emphasized that for a teacher to teach well effectively, he needs all the necessary materials like maps, text books and any other instructional materials.

The findings further indicated that the availability of teaching aids is very important in the teaching-learning process. This is in conformity with Brown (1985), he argues that printed materials promote meaningful learning and effective communication.

On the other hand Maicibi (2003) in support of printed materials brings out the value of teaching-learning resources that they help pupils to use more than one sense in learning. Learning is more effective if the impression on the sense is more vivid, interesting and striking. The more senses used in learning, the deeper is the impression made in the mind. Thus, greater understanding and longer retention in the mind of what has been learnt.

From the findings one can discern from it that as few as effective teaching learning process is concerned, there should be a variety of teaching-learning resources. This view is supported by Kay (1971) who wrote that: In recent year many new and wonderful teaching aids have found their ways into the classrooms.

Radios and television film strip or slide projectors if properly used can make the teachers task easier and effective.

The findings also showed that adequacy of printed materials are very important in enhancing pupils learning. This finding is in agreement with Bishop (1985) who believes that for any change of improvement in education there must be adequate instructional materials like text books, charts, teachers' guides and other teaching learning materials. He referred to them as "tools for the job" a notion supported by the social theory of learning.

4.3.3. Research Question three:

What are the contributions of group discussions on performance of pupils in Kitgum District?

The teachers, pupils, Head teachers/SMC and parents were asked the above question. The responses were presented in table 16 and 17 where 62% of the teachers and 70% of pupils disagreed with the existence of group discussion in schools as depicted in table 16 while table 17 shows that 60% of Head teacher and SMC said that there are no group discussions formed in school to aid learning and 70% of the pupils also reported that they have not seen student engaged in group discussion at any moment they made a visit to school.

In support, Sampson (1995) says that a wide variety of learning aids help teachers to maintain a constant formative evaluation of each learner's progress. It is very much true in the sense that, use of learning aids makes the child's skills of creativity to be recognized and help in that directive respectively. Therefore, teachers are expected to have a variety of learning aids so that learners have the chances of exploiting their talents.

In conjunction to that view, grant (1964) says the role of the teacher is to guide learners on how to bring the required materials necessary for learning, then learners use available local materials within their environment to stimulate their learning.

Austin (1979) in support explains that group discussion is the process of increasing the knowledge and skills of individual to perform well in the subject frequently discussed, as Group discussion creates a change in thinking and behaviour of pupils to enable them do well in class and develop their capacity and prepare them for greater responsibilities and good grades in exams.

The finding is further supported by Koech (2006), he talks about "discovery" skills which should be built in the learners. If the materials are availed in a learning situation, the learners would then find it flexible to discover the facts behind the expectations of the teachers on their own. He continued to say, it is not teachers' work to spoon feed learners with the facts, but its learners responsibility to dig for the solutions on their own.

CHAPTER FIVE

SUMMARY, CONCLUSION AND FINDINGS / RECOMMENDATIONS

5.1 Introduction:

This chapter is intended to address the summary of the study, conclusion and recommendations of the findings of the project.

5.2 Summary:

The researcher made summary of the major findings of the study arising from the research questions as presented below:

- There is inadequacy of instructional materials provision at Lagotcugu CC Mucwini Sub County.
- Training of teachers has a great impact in the teaching learning process. Thus enhances pupils' academic performance.
- Teachers' laxity and lack of commitments in teaching and incompetence in using instructional materials cause pupils not to receive proper teaching and can not read, interpret and write Mathematical statements in words form correctly. Such pupils lose interest in Education and perform poorly.
- Many parents have negative attitude towards Education such that they cannot raise or do not want to pay additional money levied for uniforms, exercise books and mid- day meals among other things.
- Children's rights have given too much freedom to pupils which have affected their level of discipline.
- Lack of individual pupil's attention. There is less individual attention by teachers due to the big U.P.E numbers.

- That there is no group discussion formed in most schools to aid learning and discovery processes.
- That the availability of teaching learning aids is very important in the teaching- learning process to promote meaningful learning and effective communication.

5.3. Conclusion:

Arising from the discussions and summery of the findings of this research projects, the researcher arrived at the following conclusion.

- Teaching aids has great effect in enhancing pupils' academic performance in Mucwini Sub County. It further revealed that trained teachers are adequate on the ground.
- Group discussion has impact on learners' academic performance and aid in memory recalls and systematic reasoning of the pupils yet lacking in the schools visited.
- That there is inadequacy in provision of printed materials in most schools. This inadequacy has very much affected teaching because teachers can not guide pupils practically hence, all the teaching is theoretical.
- Lack of mid-day meals. Schools do not provide lunch to pupils yet it's one of the real objects that stimulate learning.
- Parents do not provide enough scholastic materials to their children. For example the data revealed that most of the pupils lack school uniforms and Mathematical sets.
- Lack of individual pupil attention. Most of the respondents visited said that there is less individual pupil attention by teachers due to the big U.P.E numbers.
- There are very many curriculums in operation in schools. This is misleading most teachers.
- A teacher work load expands beyond the normal class time to the tedious process of preparing lessons plans, looking for teaching aids, monitoring individual process of learners and other activities that come with the job.

- The New vision Newspaper between January and March 2001, of the 150 candidates interviewed, only 2 (1.3%) wanted to become teachers, the reason given to avoiding teaching profession generally points to the unattractiveness of the teaching profession. Yet these stars attribute their success to teachers.

5.4 Recommendations:

The researcher arrived at the following recommendations arising from the findings of this study.

- The pupils should form discussion groups in order to get or share knowledge among themselves so as to perform well in exercises and overall grade pass.
- Revising the current teaching syllabuses which appear to be too academic to incorporate skills that are commensurate with the current trends of development
- Ministry of Education and sports should provide schools with the necessary materials e.g. teachers' reference books, pupils' text books and other print materials.
- It should also pay commensurate attention to the teachers' welfare (accommodation and salary).
- It should further strengthen CPD of teachers at level for quality service delivery
- Head teachers should supervise the teachers to make sure that they adequately prepare for teaching exercise through making schemes of work, lesson plans and instructional media in time.
- Head teachers, SMC and local Council. Should also convene parents meetings to sensitize them on their roles in Education of their children and also the need to provide scholastic materials and lunch to their children.
- The ministry of Education and sport should advocate for children's rights to be revised, to give some room for disciplining in schools.

- Guidance and counseling services should be intensified in the schools to enable children makes informed decisions about their future career.
- Schools should be encouraged to participate in Science and Technology, social studies, Mathematics and English fairs, so as to produce more instructional materials from locally available resources.
- The Public Authorities and leaders of education institution to ensure that the teachers' working condition, social security arrangement, pension schemes and salaries are attractive and are comparable to those applicable to other professions requiring a similar level of qualifications.
- The government should strengthen and implement action to respond to health and safety incidence such as lighting, floods, fire, high commodity prices and other natural disasters which have impacted greatly on the teaching and learning processes.

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APPENDIX A.

QUESTIONNAIRE FOR THE TEACHERS

Kindly tick the correct responses.

Key:

Strongly agree (SA), Agree (A), Neutral (NS), Disagree (DA), Strongly Disagree (SDA)

Statement	Responses				
	SA	A	NS	DA	SDA
Real objects and performance of Pupils					
Real objects have clear purpose built on previous lessons and prior knowledge with a conclusion that impress what they have learned.					
Pupils understand better when they see real objects used in class.					
Teachers make their own teaching resources.					
Classrooms provide a stimulating teaching environment.					
Teachers are confident, Pupils are relaxed and focused. There is considerable evidence that real learning is going on.					
Teachers ask a range of low and high order questions.					
Printed materials and performance of Pupils					
Text books and other printed materials are available and are effectively used.					
Pupils are interested and constructively engaged with appropriate work.					
Teachers use a range of teaching approaches during lesson appropriately.					
All pupils are catered for including both fast and slow learners, both boys and girls.					
Group discussion and performance					
Pupils-centred work (i.e. not teacher's talk) dominate the lesson time (Particularly during body and conclusion of the lesson).					
Teachers present the full range of subjects and content prescribed by the syllabus.					
Teachers employ a variety of teaching methods.					
Learning takes place through pupils' activity.					
Pupils are encouraged to bring their own ideas and experiences in to the classroom.					
Teachers employ a variety of thought provoking questioning techniques.					
Pupils indicate understanding from their responses and apply them in learning in the lesson.					
Time on task is maximized using instruction materials and lesson well paced.					

APPENDIX B.
QUESTIONNAIRE FOR THE PUPILS

Kindly tick the correct responses.

Key:

Strongly agree (SA), Agree (A), Neutral (NS), Disagree (DA), Strongly Disagree (SDA)

Statement	Responses				
Real objects and performance of Pupils	SA	A	NS	DA	SDA
Teacher–Learner relationship management of real object is good and it enhances learning.					
Teachers reflect on, and evaluate their own practice in the use of real objects in the class.					
Consistent discipline is applied and positive behaviour is reinforced while using stimulative realia.					
Girls and boys work demonstrate that they perform academically to their full potentials when taught using real objects.					
Printed materials and performance of Pupils					
Text books and other printed materials are effectively used while teaching.					
Assignments/ home works are given regularly and marked in time and records communicated to parents.					
Teachers have sufficient knowledge in the use of printed material to promote pupils’ understanding.					
Learner attendance is encouraged and monitored to improve performance using class register.					
Group discussion and performance					
Learners’ contributions are valued in class discussion.					
Teaching methods are learners-centred and a variety is being used.					
Learners participate in guided decision making session.					
Learners are encouraged to bring their own ideas and experiences in the classroom during learning.					

APPENDIX C

INTERVIEW GUIDES FOR KEY INFORMERS (D.E.O, HEAD TEACHER AND SMC)

Guiding questions.

1. What is your view about real objects as teaching aids to pupils?
2. It is believed that children understand better through the use of real objects. What do you have to say about it?
3. Government has a policy that text books and other printed materials should be available and effectively used in schools. What provision do you have for this in your school?
4. 'Group discussion creates a permanent knowledge in the mind of our learners'. What is the validity of this statement to you?
5. How often do you meet your students to discuss about their performance and future career?
6. What measure have you put in place to see that school resources like real objects and text books are in place and well managed?
7. Teachers-school Administration relationship encourages good working environment to improve Pupils' performance through purchase of teaching aids. What do you have to say?
8. Duty consciousness should be valued by teachers through scheming, planning and improvisation of learning aids. How do you ensure the effectiveness of this in your teachers?
9. What factors contribute to poor Mathematics abilities in learners according to your experience?
10. For group discussion to be productive, classrooms should comfortably accommodate the number of Pupils. What is the state of you your experience?
11. How do you recognize and praise your staff and pupils' contribution to the life of your school?
12. In your own view, what do you think should be done to improve Pupils' performance in Mathematics?