

**INSTRUCTIONAL MATERIALS AND PERFORMANCE
OF PUPILS IN SCIENCE IN APAC DISTRICT, A CASE
STUDY OF SELECTED SCHOOLS IN
AKOKORO SUB-COUNTY.**

BY

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DECLARATION

I, JULIUS OKORI declare that this research report is my original work and it has never been presented anywhere for any academic award

Signed 

Date 30th 10/2011

APPROVAL

This is to certify that this research report has been prepared under my supervision and it has never been presented to any university or college of learning.

Signed



Mr. Odongo Mike

Date

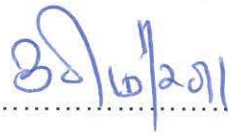


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CHAPTER ONE

INTRODUCTION

1.0 Introduction

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

1.1 Background:-

Globally scientific knowledge is an opportunity for students to gain insights not only into science concepts and principles, but also into the ways in which scientists think and operates when they acquire knowledge about nature. Science has remained one of the most difficult subjects at all levels in the school curriculum(NERDC,2005).The analysis of text materials was a major focus of a symposium held in **Boulder, Colorado** in **1980**.One of the symposium participants, **Deese**,contented that pupils never learn how to cope with expository texts. Its thesis is that text books are written rather than spoken. Readers who are going to the scientists in the future must learn to understand dense propose in which what modifies what is hard to discover, and what needs to be inferred is not easy to determine.

A study by (**Owolabi 2004**) revealed that performance of Nigerian students in Ordinary level Physics was generally poor. This was attributed by the author to many factors. Teaching strategy itself was considered as an important factor.

In addition to the above,**Eshiwani (1983)** in his study of Western Kenya Province found that in1975 there was 44.6% non trained teachers and that by 1983 the percentage had

increased to 60% according to his report, the implication of this percentage increase of non trained teachers would be a drop in academic performance.

MOES (2001) set minimum standards for educational institutions including primary schools. One of the indicators demands that each school put in place at least one core subject text book for each teacher of the subject, teacher's guide for each core subject book a simple weather station. This was an attempt to help schools ensure that basic instructional materials are available in order to raise standards of teaching and learning. The process of passing knowledge from the holder of the content to those who do not know (the learners) is referred to as educational technology. Science is one of the subjects taught in primary school that deals with acquisition of facts and skills. It is believed that the total process of teaching and learning on the basis of appropriate communication should be supported by human and non human resources commonly known as instructional materials that compose educational technology.

Locally science takes the greatest percentage as far as poor performance is concerned. This was argued by the D.E.O Apac district Mr.LOkunyu .A. Billy Odur in his opening remarks during the release of PLE results of 2006 at Apac women development center **(Rupiny 2007)**.Mr. Okunyu continued that our environment is still very rich with teaching learning materials, but the DEO lamented that our teachers are lazy and not bothered in using natural instructional materials while teaching our children. The DEO Apac asked the headteachers to leave the chalk and talk method if our performance is to improve. Locally, if our learners are properly taught science skills they can use the knowledge and skills to live productively such as preventing diarrhea by preparing ORS orally, maintaining good sanitation to prevent the spread of diseases.

1.6 Scope of the study.

1.6.1 Geographical scope.

This study will be carried out in Akokoro sub-county Apac district. Apac is bordered by Oyam District from the north, Nakasongola District from the South, Kiryandongo District from the west and Dokolo District from the East. Apac district has nine sub counties, for the purpose of this study; Akokoro Sub County shall be reached.

1.6.2 Time Scope:

This study shall cover the period between **2006** and **2011**. This period is chosen because it is the period the country experienced third term in the movement system of administration, yet performance of pupils still continue to drop at the national perspective.

1.7 Significance of the study.

Instructional materials form part and parcel of the teaching and learning processes. They facilitate the teacher’s communication during teaching and helps children to understand concepts better.

The findings of the study will benefit the following:-

- **Government;** the finding of this study will help the government to consider the education sector when they plan and budget for the country so as to improve performance of our learners mainly in science subject by providing enough instructional materials.
- **Policy makers;** the study will help policy makers to come out with appropriate policy governing education sector in Uganda.
- **Future researchers;** the out come of this study will help future researchers discover more in education sector and also use it as a bench work.
- **School administrators;** will use this result to equip their schools with enough instructional materials especially the use of natural resources from the environment.

- **Local community;** will benefit when the performance of their children improve and they pass science very well at all levels.

1.8 Limitations of the study.

- ❖ This study will be limited in funds to facilitate the researcher during the process of the study. Nevertheless, the researcher will stick to his budget so as to cut down unnecessary expenses.
- ❖ Some of the respondents shall not be willing to respond to the questionnaires others may refuse to return the questionnaire. The researcher will double his effort and use documentation where applicable to cover the lost questionnaires.
- ❖ The researcher may not have enough time to finish the study in time. The researcher will have to stick on the time frame to accomplish the work in time.

1.9 Definition of terms.

IMS - Instructional materials – these are materials teachers use in the presentation of their lessons.

METHODS – These are procedures used during the lessons Presentation.

SCIENCE – Is the study of living and non living things.

PHENOMENON-remarkable

EDUCATIONAL TECHNOLOGY-Process of passing knowledge from the holder of the content to those who do not know.

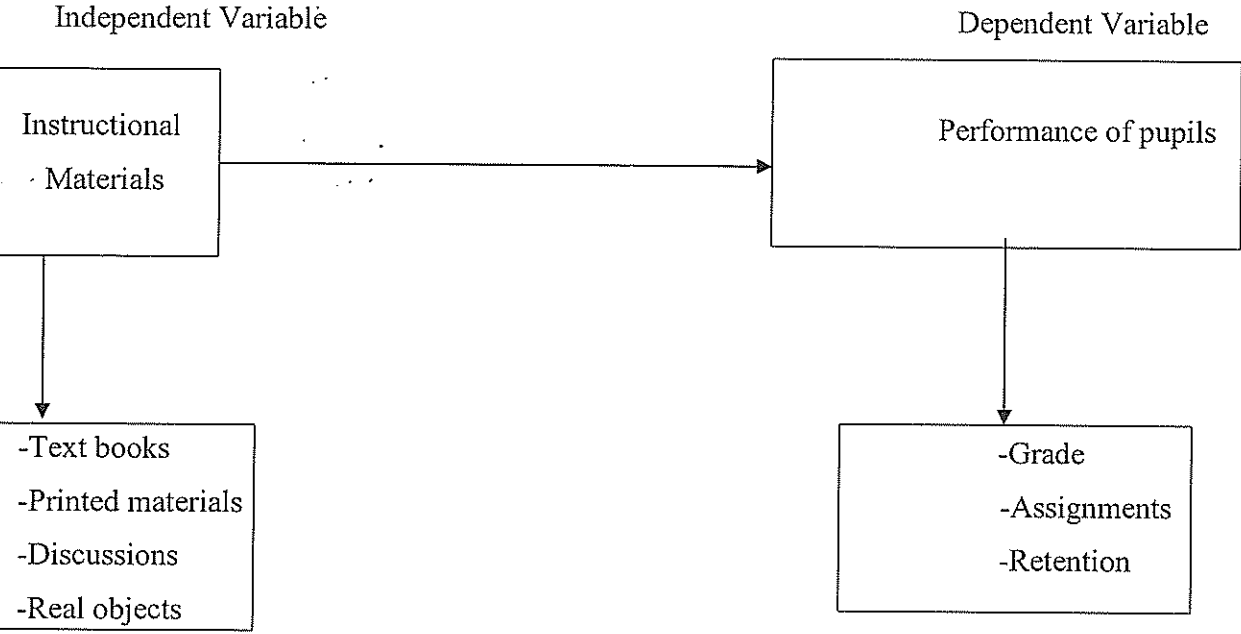
THESIS-long piece of writing completed by a student as part of a university degree, based on their own research.

PERFORMANCE- The act of doing something.

HERE- An area of activity that influences a particular section of the society.

1.10 Conceptual frame work.

The frame works show relationship between learning materials and performance of pupils



Science is believed to be the most difficult subject; the performance of science is mostly affected by instructional materials examples, text books, printed materials, real objects and group discussion as a method of teaching science may also affect pupils' performance in science. Hence, performance of pupils will be seen by the grades obtained, assignments done and retention of pupils at school as illustrated above diagrammatically.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction.

This section will deal with the analysis of existing literature. It will examine theoretical review and actual review of related literature.

2.1 Theoretical Reviews.

This study has relevance to a number of Theories,

Gagne's Conditions of Learning Theory (1962) is based on a hierarchy of intellectual skills organized according to complexity that can be used to identify prerequisites necessary to facilitate learning at each level. Instruction can be made more efficient by following a sequence of nine instructional events defined by the intellectual skills that the learner is required to learn for the specific task at hand.

Bruner's Constructivist Theory (1966) asserts that learning is an active process in which learners construct new ideas based upon their current knowledge. Instruction can be made more efficient by providing a careful sequencing of materials to allow learners to build upon what they already know and go beyond the information they have been given to discover the key principles by themselves.

Bandura's Social Learning Theory (1973) emphasizes the importance of observing and modeling the behaviors and attitudes of others. Instruction can be made more efficient by

modeling desired behaviors of functional value to learners and by providing situations which allow learners to use or practice that behavior to improve retention.

Carroll's Minimalist Theory (1990) advises that course designers must minimize instructional materials that obstruct learning and focus the design on activities that support learner-directed activity. Instruction can be made more efficient when the amount of reading is minimized and learners are allowed to fill in the gaps themselves.

Vygostky's Theory of Social Cognitive Development (1978) reasons that social interaction plays a fundamental role in the development of cognition. Instruction can be made more efficient when learners engage in activities within a supportive environment and receive guidance mediated by appropriate tools.

For the purpose of this study Bruner's constructivist Theory shall be used

Actual review of the related literature.

Text books and performance.

Owalabi, (2004) defined science as an integral part of human society. Its impact is felt in every sphere of life, so much that it is intricately linked with a nation's development. Science as a field of study has done a lot for mankind. For instance, life has been made easier for man as a result of advancement in science.

Science has remained one of the most difficult subjects at all levels in the school curriculum (**NERDC, 2005**). A study by (**Owolabi, 2004**) revealed that performance of Nigerian students in Ordinary level physics was generally poor. This was attributed by the author to many factors. Teaching strategy itself was considered as an important factor.

In addition, **Mazinga (2000)** stated that as a child grows and uses instructional materials, he/she gets to know how these materials are used in proper way to accomplish the things one wishes to do.

In science, the text book is the primary instructional material. The analysis of text materials was a major focus of a symposium held in **Boulder, Colorado**, in 1980. One of the symposium participants, **Deese**, contended that pupils never learn how to cope with expository texts. His thesis is that text books are written rather than spoken. Readers who are going to be the scientists, in the future must learn to understand dense prose in which what modifies what is hard to discover, and what needs to be inferred is not easy to determine.

According to **Soetan et al, (2010)** graphics include charts, posters sketches, graphs and drawings. Graphic in teaching creates definitiveness to the materials being studied. They help to visualize the whole concept learned and their relationships with one another. The instructional value of graphical illustrations lies generally in their capacity to attract attention and convey certain types of information in a condensed form **Onasanya and Adegbija, (2007)**

2 Printed materials and performance

Today, advances in technology have made it possible to produce materials and devices that teachers use for teaching and at the same time, make the message clearer, more interesting and easier for the learners to assimilate **(Onasanya et al, 2008)**.

Thompson, (1983) asserts that it is impossible for a teacher to describe every concept in science effectively. Generally the use of learning materials is of great value to the teaching of science and other subjects. Instructional techniques are important but the use of instructional materials also influences pupils achievement use of process skills and other outcomes.

Farrant (1982) points out that visual communications have advantages.

This means that they arouse the interests of the learners, creates correct impression or clear mental picture, the understanding of concepts better and provides experience. It should be noted that for the teacher to deliver adequately in his/her teaching, instructional materials must be available to do the job, hence better performance. Therefore, there is no doubt that if instructional materials are emphasized in the teaching of science, there is a high hope of better performance due to better deliverance emanating from an interested teachers.

Robinson (1981) adds that for some one who has not been prepared for this intellectual exercise, it is an impossible task. The literature available reveals that science curriculum that promotes the use of materials supports the children's achievement in the use of process skills, in creativity and in higher cognitive skills and hence good performance

Castle, (1963). The quotation confirms that what is seen and heard remained on the memory much longer than what is only heard. In this case chalk and talk method has little impact on the pupil's acquisition of skills and knowledge compared to teaching using teaching materials.

Group discussion method and performance

The role of teaching methods on pupils' performance have been emphasized by many educationists

Bastined (1968) urged that there is need to adopt schools to children. He observed that traditional education is too bookish. There are too many hours that are spent on books reading, not enough physical exercise are put in classroom lesson

New vision (2009) supplements that children are not born to sit still for hours up to the end nor are adult. They need actions, discussing, sharing, experiencing, problem solving, practicing and seeking help from peers. Lack of such activities may lead to fatigue, monotony and subsequently dissatisfaction and poor performance

Olupot (1995) criticized bad methods of teaching such as lecture, chalk and talk etc..as being inappropriate in that they exhibit tendency that limit learners chances to interact freely with teachers in the class. He said 'with this kind of methods it becomes difficult for students to give their own experiences and views in the classes.'

Grein (1988) urged that students should be taught how to critically analyze things taught and ask questions. Teachers should allow students to participate in decision making and learners should take part in learning process and not receivers' only. Both teachers and students should work to discover knowledge

To put on more light, **Dewey (1987)** advocated for teaching by discovery. He argued that teaching through activity contributes to better learning, it enables students to acquire experience easily, and even skills are quickly learned thus better understanding of knowledge

On the same issue **Farrant (1984)** contents that children learn best by. By doing learners develop great interest and enjoyment thus greater understanding. This argument agrees with **Dewey** and **Fresire's** views. Once learners are allowed freedom to learn at their own pace with activities, learning becomes interesting, real and meaningful .At times it eases teachers' tasks, thus making learning pupils centered. Farrant however, cautioned about

giving excessive freedom to learners. He explained that, this may not be good as it may not make a learner to do what is expected. He suggested teacher's guidance as vital

2.2.4 Real object and performance

Jegede, et al. (1992) reported factors responsible for pupil's general poor performance in science. These are poor laboratory facilities and inadequate instructional materials in schools.

Experience over the years has shown that teachers have been depending on excessive use of words to express, and convey ideas or facts in the teaching learning process. This practice is termed as the "talk and chalk" method.

Instructional materials provide the physical media through which the intents of the curriculum are experienced (Talmadge and Eash, 1979). Children normally find it easier to identify a concept with its immediate neighbours before relating it to more distant ones. This means that materials nurses the teachers methods of teaching and in a way the children will be presented with what they can see before telling them what they do not know.

Teachers are still tied to what Inn (1998) considers to be required by examinations syllabi and yet the concerned is that there is change in methods of teaching that involves the use of adequate instructional materials. Experiments are considered vital to bring science teachers the sense of fulfillment we do our selves experience.

Billow, (1967) cited that “teachers see the need of making the use of aids in one form or another to help pupils have imaginative experience beyond reach in classroom. Not many teachers realize the need of using instructional materials imaginatively.

This means that teachers use instructional materials to help them bring real world in to the essentially artificial classroom situation and there after relate what he is teaching to actual sense. “Children can see for themselves that some methods are good and some are bad”

Turner (1977) pointed out that **Klausmeier** and his colleagues listed six functions of learning materials and that they change the level of motivation of the learner to a higher degree. This is because when they are used, they are in a conducive atmosphere for both the teacher and the learner. Performance is used to mean the action or manner of carrying out an activity. We give instructional aids because we hope that though students have individual differences, we provide learning experiences with the intension that each student will then be a modified person in knowledge, attitude belief and skills. But most important of all are skills (**Mager 1984**).

Through science, man has been able to better understand his environment and this has enabled him to manipulate the conditions of his environment to suit his own benefit. (**Ogunleye, 2000**) observed that science is a dynamic human activity concerned with understanding the workings of our world. This understanding helps man to know more about the universe. Without the applications of science, it would have been impossible for man to explore the other planets of the universe.

Also, the awareness of the existence, of the other planets would not have been realized without science. At primary level, science has been defined as the study of living and non

living things. Many investigations have shown that science is one of the disciplines which pupils are not interested in; (Esiobu, 2005) ;(Okonkwo, 2000).

Science at secondary level has been split into basic disciplines such as physics, chemistry, and mathematics research has shown that the phenomenon of failing science in primary as a result of lack of interest is transferred to secondary.

CHAPTER THREE. METHODOLOGY.

Introduction.

This chapter will deal with research design, population of the study, sampling methods, data collection methods, data collection instruments, procedures of data collection, data analysis and reliability and validity.

Research design:-

Cross sectional design will be used to help the researcher to collect the information from a cross section of correspondents (Mugenda and Mugenda, 1995).The study will be both qualitative and quantitative

Population of the study

The study shall be done in Akokoro sub-county Apac district the respondents under this study are as summarized in the table below.

Table 1: showing the selection of the respondents under the study

Respondents	Number
Headteachers	5
Parents	5
Teachers	15
Pupils	25
Total	50

3.3 Sampling selection

Table 2: showing the sample selection of respondents

Respondents	Total Number	Sample size
Headteachers	10	5
Teachers	30	15
Pupils	50	25
Parents	10	5
Total	100	50

3.4 Data collection methods.

As summarized below

Table 3: showing data collection methods.

Respondents	Sample	method
Headteachers/DEO/DIS	5	Interview
Teachers	15	Questionnaire
Pupils	25	Questionnaire
Parents	5	Interview

Observation method shall be employed to locate the physical tangible items in the study such as library, learning aids, teaching methods and etc.

Data collection instruments.

The following instruments will be used by the researcher to obtain the information from the respondents.

Interviews guide:-

These are written questions that will be read by the researcher and the headteachers and the selected parents answer orally to solicit information needed

Questionnaires.

These are typed questions that will be distributed to teachers and pupils for them to respond by writing or ticking what they feel is right. This is the major tool of the researcher because it can easily be administered within a short time to many respondents

3.5.3 Observation

This will be used to obtain physical tangible items within each school. This is also time saving because the researcher observes many things at once.

3.5.4 Documentation review.

This will be used to bridge the gap that might have been created during the interview with headteachers and parents and some questionnaire that are lost. The researcher decides to use this tool because it is very effective in obtaining accurate data because the information is picked directly from the files.

3.6 Procedures of data collection.

The researcher upon submission of the proposal approved by the supervisor, shall be issued a letter of introduction that shall be presented to the chief administrative officer (CAO) where need be a written letter shall be issued by the CAO introducing the researcher to the field

3.7 Data analysis:

Data collected shall be edited, coded, tabled, graphs, pie-chart and other relevant statistical tools. There after, the data shall then be analyzed accordingly

3.8 Reliability and validity.

The researcher intends to pre test the instruments on a few groups of people in Ayeolyec parish. This parish is chosen because it is not a part of the study. The information collected from this shall be compared to ensure consistency and reliability of the data.

The researcher also intends to use face validity. This is so because it allows room to provide consistency when repeated.

CHAPTER FOUR DATA PRESENTATION, DISCUSSION AND ANALYSIS.

4.0 Introduction

This chapter comprised of data presentation, discussion and analysis. In his study, the researcher aimed at finding out the institutional factors affecting poor performance in Science subject in Apac district, Akokoro Sub County.

The investigator wanted to prove whether or not the following objectives of the study influence the performance of Science subject.

1.8 Objectives of the study.

1.8.1 To examine how the availability of text books affect performance of pupils in Akokoro sub-county.

1.8.2 To find out the extent to which printed materials affect performance of pupils in Akokoro sub-county.

1.8.3 To assess the contribution of group discussion in the performance of pupils in Akokoro sub-county.

1.8.4 To analyze the effect of real objects on the performance of pupils in Akokoro sub-county.

Data collected were compiled, tabulated and computed under relevant heading to bring out the results.

The respondents in the five sampled schools were fifty (50) 5 headteachers, 15 teachers, 25 pupils and 5 parents. These five schools sampled were coded for confidentiality as seen below.

Not all the respondents returned the questions.

Table: 4 .Shows the number of responses

School code	Pupil		Teacher		Parent		Headteacher	
	Received	missed	Received	Missed	Received	Missed	Received	Missed
A	4	1	3	0	1	0	1	0
B	5	0	3	0	1	0	1	0
C	5	0	3	0	1	0	1	0
D	4	1	3	0	1	0	1	0
E	5	0	3	0	1	0	1	0
TOTAL	23	2	15	0	5	0	5	0
%	92%	8%	100%	0%	100%	0%	100%	0%

KEY:

- A Akokoro P/s
- B Idep P/s
- C Awila P/s
- D Aluga P/s
- E Abuge P/s

The result indicates that the researcher lost one questionnaire to a pupil at school A and D totaling to 8% lost. The rest of the respondents responded successfully.

Table 5: Shows result of responses per target group

Target group	Total respondents sampled	Total received	Respondents missed
Head teachers	5	5	0
Parents	5	5	0
Teachers	15	15	0
Pupils	25	23	2
Total	50	48	2
%	100%	96%	4%

The table indicates that out of 100% respondents, 96% responded positively and 4% responded negatively.

1.2 Data presentation, Discussion and analysis.

Data was collected, presented, discussed and analyzed objectives by objectives.

1.2.1 Objective One.

To examine how the availability of text books affect performance of pupils in Akokoro sub-county.

Here the researcher focused on finding out the relevancy of test books in the teaching of science.

Table 6: Shows responses on inadequate text books in the teaching of science.

Respondents	Inadequate text books affect performance negatively.				
	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Head teacher	5	0	0	0	0
Teachers	10	2	2	1	0
Parents	4	1	0	0	0
Pupils	17	5	2	1	0
Total	36	8	4	2	0
%	72%	16%	8%	4%	0%

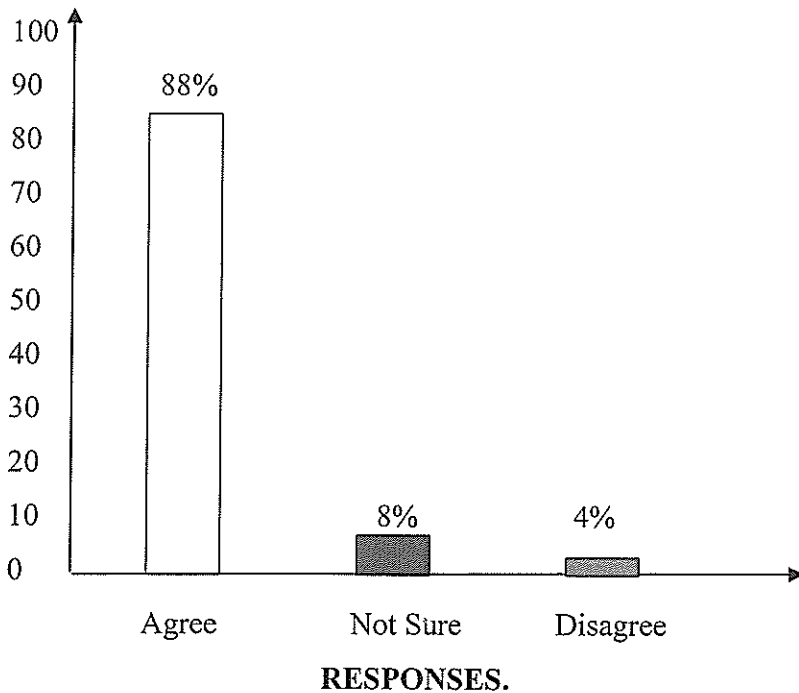
From the table above, out of 100% respondents, 88% agreed that inadequate text books in the teaching of science subject affect pupils' performance negatively. And 8% were not sure, while 4% disagreed with the statement.

This research question was subjected for investigation and the result revealed that inadequate text books contribute to poor performance in science subject in primary schools in Apac district, Akokoro Sub County. This implies that absence of enough text books influences poor performance in science subject.

This findings was also agreed in the literature review when they said, in science, the text books is the primary instructional materials The analysis of text materials was a major focus of a Symposium held in Boulder, Colorado, in 1980. One of the Symposium participants Deese, contended that pupils never learn to coup up with expository texts. It is thesis is that text books are written rather than spoken. Readers who are going to be the Scientists, in future must learnt to understand dense propose in which what modifies what is heard to discover, and what needs to be inferred is not easy to define.

In addition to the above, Mazinga(2000) stated that as a child grows and uses instructional materials, he or she gets to know how these materials are used in proper ways to accomplish the things one wishes to do.

The graph below illustrates the finding above.



4.2.2 Objective Two.

To find out the extent to which printed materials affect performance of pupils in Akokoro sub-county.

Here the researcher aimed at investigating whether or not the lack of printed materials contributes to poor performance of pupils in science subject.

Table 7. Shows responses of respondents on printing materials in the teaching of science.

		Can lack of printed materials contribute to poor performance in science subject				
Respondents	Total number	Strongly Agree	Agree	Not sure	Disagree	Strongly disagree
Head teacher	5	3	0	2	0	0
Parents	5	4	1	0	0	0
Teachers	15	3	2	7	3	0
Pupils	25	16	3	2	4	0
Total	50	26	6	11	7	0
%	100%	52%	12%	22%	14%	0%

The data indicated that out of 100% respondents, 64 agreed that lack of printed materials contributed to poor performance of pupils in science subject, and 22% respondents were not sure of the contribution of printed materials towards poor performance in science subject while 14% disagreed with the statement.

This research was subjected for investigation and the results revealed that lack of printed materials in the teaching of science contribute to poor performance in science subject in Primary school in Akokoro Sub County. Just few were sure of the important of printed materials in the teaching of science.

This result implies that absence of printed materials in the teaching of science influences poor performance in science.

Furthermore, the findings from the study revealed that the majority of teachers agreed that printed materials increased pupils' interest in learning of science.

The result therefore are in agreement with Aggarwal(1981) when he pointed out that a use of audio visual aids printed material, story telling developed motivation and make lessons more interesting and affective.

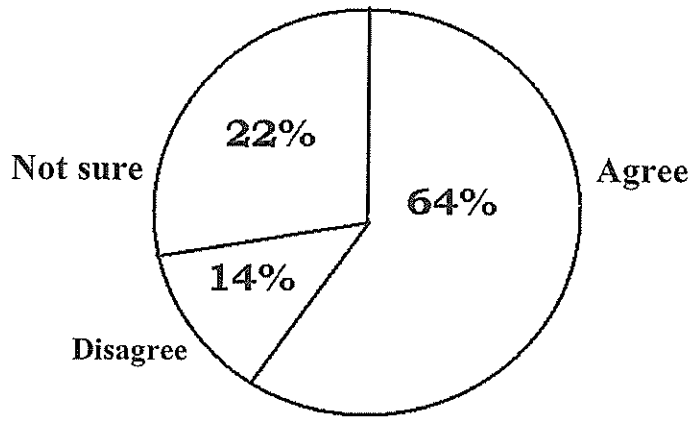
On further examination on the contribution of printed materials in poor performance in science subject, teachers were asked to indicate the number of times printed materials are used in their teaching. The majority indicated that they used chalkboard and never used graphs and printed materials in the teaching of science. Teachers responses were in agreement with the comments made by some researcher and lecturers as quoted by Kabwa (1987), thus "There is generally very scanty used of visual and audio aids. Much Geography, History lessons could have been made more interesting and meaningful with use of pictures slides or economically produced charts"

Headteachers further observed that absence of teaching materials,(printed materials in classrooms might lead many pupils, who would have been good at practical subjects to perform poorly. This was also agreed by Kabwa (1962) when she pointed out that most school likes scholastic materials on which to designed various aids. They have no manila papers on which to draw graphs, maps and charts.

Therefore the findings of the study confirmed that absence and insufficiency of teaching materials/facilities contribute to poor performance in science subject in Primary schools in Akokoro Sub County.

On the same issue Castle (1963) Pg. 9.

The Pie Chart below illustrates the above findings.



1.2.3 Objective Three.

To assess the contribution of group discussion in the performance of pupils in Akokoro sub-county.

The researcher wanted to find out whether or not reading in group by pupils can help to improve performance in science subject.

Table 8: Shows the responses of respondents on the contribution of group discussion method on performance of pupils in science subject.

Key: S.A (Strongly Agree), A (Agree), N.S (Not Sure), D (Disagree), S.D (Strongly Disagree)

Respondent	Total number of respondents	Lack of group discussion method in the teaching of science contributes to poor Performance.				
		SA	A	NS	D	SD
Head teachers	5	3	0	1	1	0
Parents	5	3	1	1	0	0
Teachers	15	9	3	0	3	0
Pupils	25	15	2	4	1	3
Total	50	30	6	6	5	3
%	100%	60%	12 %	12 %	10%	6%

The results indicated that out of 100% respondents, 72% agreed that group discussion method of teaching can improve pupils’ performance in science when used. 12% were not sure of the method while 16% disagreed with the statement.

This research question was put to investigation and findings revealed that poor teaching methods contributed in poor performance in science. These findings were also agreed by Aggrawal(1981) when argued that good teaching methods which are Psychologically and Socially sound may raise the entire lives of the learners but poor methods may debase the learners’ lives. The implication is that good teaching methods increase the interest of the pupils in learning, however if the teaching methods are bad the learners may be uninterested in learning this influence learners to dodge lessons, hence poor performance in the subject.

The study revealed that majority of the pupils agreed that teaching methods used by teachers may either motivate learners to perform well or may kill the interest of the learners in learning. Majority of the learners noted that if learners are involved in the lesson, this opportunity of participating makes learning very interesting and hence retention of the knowledge gained. This was supported by Olupot (1995), when he criticized bad methods of teaching such as lecture, chalk and talk as being inappropriate in that they exhibit tendency that limit learners chances to interact freely with the teacher in the class. He said “with this kind of method, it becomes difficult for students to give their own experiences and views in the class.

On the same issue, Friere (1988) argued that students should be taught how to critically analysis things taught and ask questions. Teachers allow students to participate in decision making and students should work together with teachers and not receivers only to discover knowledge. To put on more light Dewey (1987) advocated for teaching by discovery. He argued that teaching through activities contributes to better learning since it enables learners to acquire experience easily, even skills are quickly learned. Thus better understanding of knowledge.

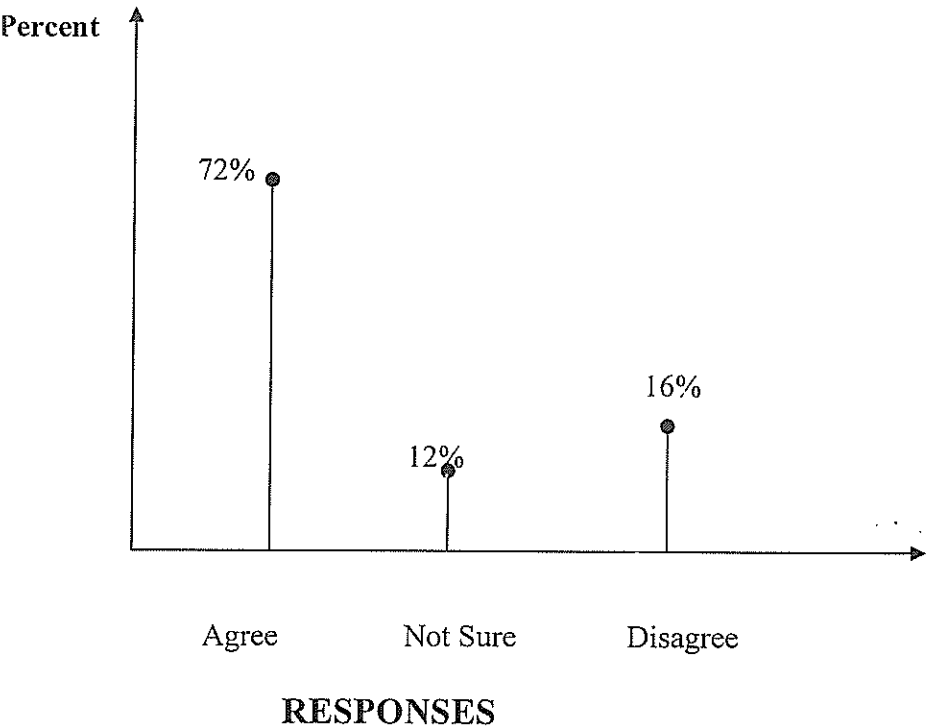
In addition Farrant(1984) content that children learn best by doing. By doing, learners developed great interest and enjoyment, thus greater understanding.

This agreement agrees with Dewey and Friere’s views. Once learners are allowed freedom to learn at their own pace with activities, learning become interesting, real and meaningful. At times it eases teachers task, thus, making learning pupils centered. Farrant however cautioned about giving excessive freedom to learners. He explained that this may not be good as it may not make a learner do what is expected. He suggests teachers’ guidance as vital.

Oral interviews with head teachers and parents revealed that many affective teaching which are more practical are not being used, these include group discussion method and observation method are not being practiced by science teachers in Primary schools in Apac district.

Therefore the findings revealed that bad teaching methods is one of the institutional factors are affecting good performance in science subject in Akokoro sub county Apac district.

The graph below explains the above information.



Objective Four.

To analyze the effect of real objects on the performance of pupils in Akokoro sub-county.

To conclude, the researcher here aimed at investigating on how lack of real objects in the teaching of science affects performance of pupils.

Table 9: Shows the responses of respondents on real objects in the teaching of science.

Key: S.A (Strongly Agree), A (Agree), N.S (Not Sure), D (Disagree), S.D (Strongly Disagree).

		Do lack of real objects in the teaching of science facilitate to poor performance in science subject					
Respondents	Total number	S.A	A	N.S	D	S.D	Missed
Headteachers	5	3	0	2	0	0	0
Parents	5	4	0	0	0	1	0
Teachers	15	9	3	0	2	1	0
Pupils	25	18	0	4	2	0	1
Total	50	34	3	6	4	2	1
%	100%	68 %	6 %	12%	8%	4%	2%

The results indicated that out of 100% of respondents which participated, 74% agreed that lack of real objects in teaching of science subject leads to poor performance. 12% of the respondents were not sure whether real objects in the teaching of science can affect performance. 12% disagreed on the same issue, the researcher lost one questionnaire which is 2%.

After subjection of this research question for investigation, the result indicated that lack of real objects in the teaching of science which is a practical subject is one of the factors contributing to poor performance of pupils in science subject. This was agreed by Jegede,et al (1992) when they reported factors responsible for pupils' general poor performance in science. These are poor laboratory facilities and inadequate instructional materials in schools. Experience over the years has shown that teachers have been depending on excessive use of words to express, and convey ideas or facts in teaching learning process. This practice is termed as the "chalk and talk" method.

Instructional materials especially real objects provide the physical media through which the contents of the curriculum are experienced (Talmadge and Eash, 1979). Noted that children find it

easier to identify concept with its immediate neighbours before relating it to more distant ones. This means that materials (real objects) nurse teachers' methods of teaching and in a way the children will be presented to what they can see before telling them what they do not know.

In addition to the above, teachers are still tied to what Inn (1998) considered to be required by examination syllabi and yet the concern is that their change in methods of teaching that involves the use of inadequate instructional materials. Experiments are considered vital to bring science teachers the sense of fulfillment we do ourselves experience.

The results of the interviews with headteachers and parents also revealed that in many schools, science equipments are not available and that make teaching and learning of practical subjects as an introductory Physics and Chemistry in science syllabi P6 – P7 just very difficult to teach. This was observed by (Ogunleye, 2000) that science is dynamic human activity concerned with understanding the working of our world. This understanding helps man to know more about the universe. Without the application of science, it would have been impossible for man to explore the other planets of the universe.

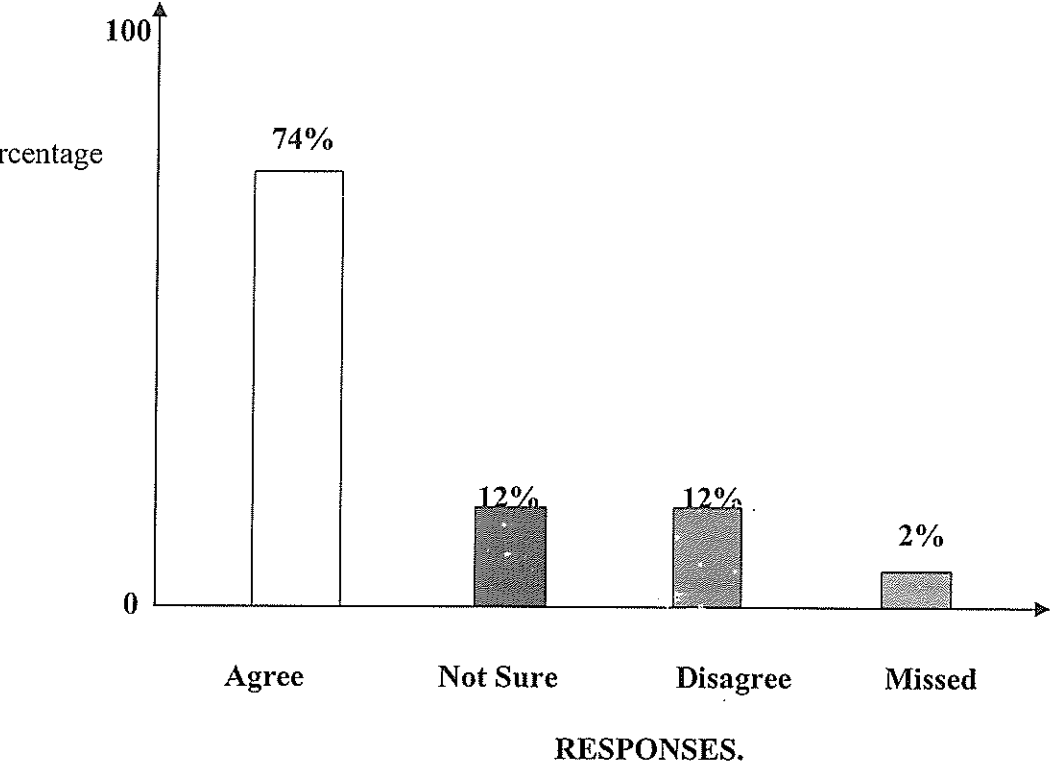
Also, their awareness of the existence of the other planet would not have been realized without science. At primary level, science has been defined as the study of living and non-living things. Many investigations have shown that science is one of the disciplines which pupils are not interested in, due to the way it is taught/handled, (Esiobu, 2005); (Okonkwo, 2000).

With the purpose of nature study, the teacher should give children as many chances as possible to observe and appreciate the world of nature. Every class should have a nature table and corners where children should be encouraged to collect as many specimens as possible to show the class. These were agreed by Billow, (1967) when he cited that teachers should see the need of making

the use of aids in one form or another to help pupils have imaginative experience beyond reach in classroom. Not many teachers realize the need of using instructional materials imaginatively. Hence this leads to poor performance.

Therefore the findings of the study confirmed that absence of real objects in the teaching of science subject is one of the contributing factors of pupils' poor performance in science.

The graph below explains the responses on lack of real objects in teaching.



Other Factors.

Diseases

Diseases are yet another cause for poor performance in science subject cited during the study by the researcher, eg AIDS and natural death that leads to wide spread of orphanages was common here.

CHAPTER FIVE:

CONCLUSION AND RECOMMENDATIONS.

Introduction.

This chapter deals with conclusion and recommendation of the findings /results in the chapter four for improvement of the institutional factors to promote good performance in science subject.

CONCLUSION:

The researcher found out that the major failures towards science subject in this sub county are caused by:-

- (i) Inadequate relevant text books. The findings revealed that relevant text books and reference books which are very effective in the teaching of the science are not found in almost all the schools in which the study was carried out, instead most teachers use outdated notes and passed papers in the preparing of our children for exams.
- (ii) Lack of printed materials. The study discovered that most of the printed materials supplied by government of Uganda in Primary schools, are no where to be found, some schools said they did not get while some said they got some few which could not facilitate the teaching of science that can improve performance.

- (iii) Lack of the right teaching methods. The findings revealed that effective teaching methods like group discussion method, observation, discovery and field trips are not practiced in almost all primary schools the researcher reached, instead teachers used bad teaching methods like chalk and talk which can not improve performance of our pupils.
- (iv) Lack of real object in teaching science: It was discovered during the study that most teachers are very reluctant in the use of real materials in teaching, this makes learning of science abstract and unenjoyable, for the learners and at the same time kills learners' interest in science subject. Hence poor performance in the subject.

Furthermore diseases were cited as one of the contributing factors towards poor performance in science subject in the sub county eg AIDS. This leads to wide spread of orphans. This was noted as the cause of choice less poor performance.

Lamentable enough lack of proper control by reluctant parents was also revealed by the study to be one of the major causes of poor performance in science in the sub county.

Finally retrospect, it was easy to note that the automatic promotion as affected our children's performance negatively, because the issue is that whether the child is performing well or not, but at the end of the year all must be promoted to the next class without any query on his/her performance.

RECOMMENDATION AND SUGGESTIONS:

The outcome of the study as brought into the life of a researcher the question that “is science being taught in Akokoro Sub County?”

Below are some recommendations and suggestions cited by the researcher to help fight the factors leading to poor performance.

1. On relevant text books.

The government of Uganda under the Ministry of education and sports and other willing ministries and NGOS should ensure that essential relevant and enough text books are made available in all our Primary schools. Maintenance of these text books should be enforced.

2. Printed materials:

The ministry of Finance and Economic development should improve the UPE Fund services and the stakeholders at the school level should ensure effective use of government money so as to improve on the effective use of printed materials and their use to improve pupils performances in science subject.

3. On Teaching Methods:

Refresher courses for teachers be organized time and again as these refreshes teachers method of teaching. This will help the teacher and enable teacher to apply the correct methods, follow curriculum and make proper timetable according to the period allocated per week . .

Teaching/learning process should be regularly and closely monitored and evaluated by educational stakeholders and correct some limitations; this will improve teachers methods of teaching. Hence, good performance.

4. Real Objects.

The ministry of Education and Sports should ensure that essential teaching /learning facilities like classrooms, desks, magnet, simple electric current circuit and other relevant equipments be supplied to government Primary schools.

On the same issue, teachers should be motivated to make proper use of local materials from the environment so as to make science subject practical and life sustainable knowledge.

On orphans

To this group, the government should calculate properly and offer things like scholastic materials (Paraphernalia and school uniforms) so that this group is in school and their

feedings should also be considered by the government. And serious follow up be treated special, or these materials be handled by Paragon.

On lack of control by parents

On this issue, the government through education department should put in place a law, which does not allow any parent stay with children of school going age, and the law should be enforced.

In addition to the above, a parent who is proved reluctant in the provision of scholastic materials to the child should be called to the sub county headquarters and delt with accordingly, and parents must take their children themselves when joining primary one, without a parent no registration of pupil should be done.

On Automatic Promotion.

Policy makers should revive the policy of automatic promotion, when a pupil is not well prepared, he or she should not be promoted to next class, therefore learning should be emphasized on critical preparation of pupils before they are promoted to next class, so as to maintain good performance.

During the study, the researcher met some of the shortcomings, which could not give him harmful time to carry out more detailed investigations.

Therefore more detailed (investigation) research should be carried out on text books to be used by teachers in the teaching of science and contribution of real objects in relation to science performance. This should be done in wider area rather than in a sub county as used in this study(research).

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APPENDIX .A. WORK PLAN.

Activity/Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Topic identification and approval										
Proposal writing										
1st draft of proposal										
2nd draft of proposal										
Dissertation writing										
1st draft of dissertation										
2nd draft of dissertation										
Submission of final copies										

APPENDIX. B. BUDGET.

ACTIVITY	UNIT COST(SHS)	AMOUNT(SHS)
transport	400,000	400,000
secretarial services	150,000	150,000
stationary	50,000	50,000
data analysis and binding	100,000	100,000
Total	700,000	700,000

APPENDIX. C.

Questionnaires for Teachers.

Dear respondent,

I am a student pursuing a bachelor's degree in primary Education at Kampala International University. I am expected to write a research report as a requirement for completing the course. I therefore request you to complete this questionnaire. All your responses shall be treated with a high level of confidentiality.

Thank you in advance.

Question 1-8 captures personal information of the respondent.

- 1. Name of school.....
- 2. Age: 18-25 26-35 40+
- 3. Gender: Male Female
- 4. For how long have you been in this school?
A. Less than 5 years B:6-10 years C:6-10 years
D: 10-20 years E: Over 20 years
- 5. For how long have you been in service as a teacher?
B. Less than 5 years B:6-10 years C:6-10 years
D: 10-20 years E: Over 20 years
- 6. How many periods do you teach a week?
A. 6 periods B:6-12 periods C:13-20 periods
D: 21-30 periods E: 31 and above periods
- 7. Do you always use instructional materials (teaching aids) in every lesson? .
A. Yes B:No

8. Which of the instructional material would you consider the best for improving the performance of pupil in science?

A: Chalk board B: Text books C: Real objects

D: Charts E: Audio-visual.

9. Do you have materials and simple apparatus for carrying out simple experiments in science?

A. Yes B. No

10. Which teaching method do you always use when teaching science?

A. Observation B. Lecture C. Chalk and talk

D. Group discussion E. Others

11. How do you rate the stalk of instructional material available in your department of science

A: adequate B. inadequate

C: always purchase when needed

D. No finances to purchase.

Key: SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

Statement	SA	A	NS	D	SD
Instructional material has an effect on pupils performance					
Instructional materials facilitate communication					
The way teachers teach influence pupils to like science					
Group work is the most effective method of teaching science					

THANK YOU.

APPENDIX .D.

Interview Guide for Headteachers

1. School.....
2. How old are you?
3. What is your educational qualification?
4. How long have you been a head teacher in this school?
5. Which subject is the best performed in your school?
6. Do your science teachers use instructional material regularly?
7. Do you have a resource room for instructional materials?
8. What instructional material do your teachers mostly use for instruction?
9. Why do you think some teachers fail to use instructional materials for teaching?
10. Which teaching method is commonly used by teachers in this school when teaching science?
 1. How effective is group work in the teaching of science?
 2. Do lack of right teaching method affects pupils' performance in science?
 3. How can we improve on the problem mentioned in 14 above?
 4. Can you list other factors that may lead to poor performance in science?
 5. Why do you think some teachers fail to use instructional materials for teaching?
16. How did your pupils perform in science for the last 2 years PLE?

THANK YOU

APPENDIX.E.

Questionnaires for Pupils:

Name of the school.....

A. Age bracket: 8-10 B. 11-12 C. 13-15 D. 16+

3. Gender: Male F. Female

Class:.....

Key: VG (Very Good), G (Good), F (Fair), P (Poor) and VP (Very Poor).

Mark in the bracket considering the above keys.

Statement	VG	G	F	P	VP
Use of text books during teaching improves performance.					
Used materials like charts make learning interesting.					
When pupils work in groups they understand better.					
Use of real objects in teaching science helps pupils to recall taught content.					
Teachers group learners to answer test questions in science.					
Teachers use local materials like leaves, flowers etc when teaching science.					
Science is my best subject.					
We do experiment in our class when learning science.					
We have a beautiful library in our school.					
We have enough science text books in our library.					

THANK YOU.

APPENDIX .F.

Interview Guide for Parents.

Name of the school.....

How old are you?

How long have you been a member of school management committee of this school?..

What role do you as a parent play to promote the learning of your child? How often do you visit school?

Do you in your committee make regular budgets for enough scholastic materials for your school?

Does your school have resource centre?

What is the performance of children in your school?

How does your child perform in science?

Do parents buy text books for children?

Have you ever seen pupils doing group work in the school?