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**FACTORS INFLUENCING THE USE OF VISUAL AIDS IN
PRE-SCHOOLS IN ASEGO DIVISION OF HOMA BAY
DISTRICT**

BY

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**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF
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KENYATTA UNIVERSITY**

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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DEDICATION

This thesis is dedicated to my late Dad, Kornelio, Mom, Dorcas and wife Hellen, my mentors in education.

ABSTRACT

The study investigated the factors affecting the use of visual aids (non-projected) among pre-school teachers in Asego Division, Homa Bay District. The objectives of the study were: To identify the extent of use of various types of visuals; to identify factors that led to the use of teaching materials among pre-school teachers; to compare and contrast the usage of visual aids in urban, rural, private and public schools, to compare and contrast the usage of visual aids according to training levels of teachers; to determine the strategies used in acquiring the visual aids and; to identify the problems that the teachers experienced as they acquired the materials and to find out if pre-schools had stores for keeping visual aids.

The study was guided by two theories. These were: Piagetian cognitive development theory with reference to concrete operational stage and systems approach to classroom teaching. Literature review cited studies on the importance of the use of visual aids in the Western World and in Kenya.

The survey method and ex-post facto research design were used to collect information pertaining to pre-school teachers' use of visual aids. Pre-school teachers' questionnaire and observation schedule were the main instruments for data collection. Materials used to bring about improvement in children's understanding of class activities (subjects) were the independent variable. These were controlled by (a). location of the school (urban or rural) (b). experience of the teachers (c). teachers' professional qualification (d). teacher's academic qualification (e). sponsorship of the school (private or public) (f). teachers' demographic

information (age). The dependent variable was improvement in understanding the activity taught using adequate aids.

The survey was responded to by 36 teachers who were drawn from 70 randomly sampled pre-schools in Asego Division, Homa Bay District. The questionnaire had three parts. Part one had 6 items which elicited information on personal characteristics of the respondents. Part 2 had five open-ended items which required the respondents to name: why they liked using visual aids as they were teaching, what bothered them as they used visual aids, sources of visual aids, factors that hindered the use of visual aids and types of visual aids they used at their schools. Part 3 had 40 structured items which were to measure attitudes, opinions and perceptions of the pre-school teachers. Besides the questionnaire, an observation schedule was used to complement data collected by questionnaires.

- *Thirty-six teachers were drawn from 70 randomly sampled pre-schools in
- *Asego Division, Homa Bay District. The results of this study indicated that the majority of the teachers were below thirty-one years of age and were mostly form four leavers. Many of them were DICECE trained who had mainly taught in 1-3 schools. Most of them worked half day. Most of the visual aids were taken to schools by pre-school children. The use of visual aids was hindered by lack of storage facilities, finances, lockable doors and windows, time for material development, commitment of education staff, security and co-operation by community members.

TABLE OF CONTENTS

	Page
Project Title	i
Declaration	ii
* Acknowledgement	iii
Dedication	v
Abstract	vi
Table of content	viii
List of tables	xii

CHAPTER ONE: INTRODUCTION

1.1 Background to the problem	1
1.2 Statement of the problem	5
1.3 Purpose of the study	6
1.4 Research questions.	6
1.5 Significance of the study	7
1.6 Basic assumptions	7
1.7 Scope and delimitation of the study	8
1.8 Definition of operational terms	8

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Empirical studies	10
2.1.1 Research studies outside Kenya	10
2.1.2 Research studies in Kenya	14
2.1.3 Factors affecting the use of visual aids in primary schools in Kenya	16
2.1.4 Factors affecting the use of visual aids in	

	secondary schools in Kenya	18
2.2	Theoretical framework	19
	2.2.1 Cognitive development theory	20
	2.2.2 Systems approach theory	21
2.3	Conceptual framework	22
2.4	Summary	24
2.5	Specific hypotheses	24

CHAPTER THREE: METHODOLOGY

3.1	Introduction	26
3.2	Research design	26
3.3	Population	27
3.4	Sample	27
3.5	Sampling procedure	27
3.6	Instruments	28
	3.6.1 Questionnaire	28
	3.6.2 Observation schedule	29
3.6	Piloting	29
3.8	Data collection procedure	30
3.9	Data analysis	31

CHAPTER FOUR: ANALYSIS OF DATA AND FINDINGS

4.1	Introduction	33
4.2	Characteristics of the respondents	33
4.3	Sources of visual aids	36
4.4	Hindrances to use of visual aids	36
4.5	Type of Visual Aids used in pre-schools	41
4.6	Teaching experience after training by state of	

visual aids in schools	42
4.7 Type of training by state of visual aids in schools	44
4.8 Highest academic qualification and use of visual aids in schools	45
4.9 Use of visual aids in schools by age of teachers	47
4.10 Number of schools taught in by state of visual aids in schools	48
4.11 Use of visual aids in urban and rural pre-schools	50
4.12 Use of visual aids in public and private pre-schools	51
4.13 Research hypotheses	53
4.13.1 Hypothesis 1	53
4.13.2 Hypothesis 2	54
4.13.3 Hypothesis 4	55
4.13.4 Hypothesis 5	55
4.13.5 Hypothesis 6	55
4.13.6 Hypothesis 3	56
4.14.0 Findings made during pre-school classroom observation	57
4.14.1 State of visual aids	57
4.14.2 Type of visual aids used	60

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1. Discussions	62
5.2 Conclusions	68
5.3 Recommendations	74
5.4 Suggestions for further research	76
5.5 What the researcher has learnt from the research	76

BIBLIOGRAPHY 78

APPENDICES

A. Questionnaire 82

B. Observation schedule 90

LIST OF TABLES

Table	Page
4.1 Summary of characteristics of respondents	34
4.2 Sources of Visual Aids	36
4.3 Factors that hindered the use of Visual Aids by Pre-School Teachers.	38
4.4 Type of Visual Aids used by Pre-School Teachers.	42
4.5(a) Experience after training by state of Visual Aids in schools.	42
4.5(b) Experience after training by state of Visual Aids in Schools	43
4.6 Type of training versus state of Visual Aids in schools	45
4.7(a) Highest academic qualification by state of Visual Aids in schools.	46
4.7(b) Highest academic qualification by state of Visual Aids in schools.	46
4.8(a) Use of Visual Aids in schools by age of teachers.	48
4.8(b) Use of Visual Aids in schools by age of teachers	48
4.9(a) Number of schools taught in by state of Visual Aids in schools	49
4.9(b) Number of schools taught in by state of Visual Aids in schools	49
4.10(a) Visual Aids in Urban and Rural Pre-Schools	51
4.10(b) Visual Aids in Urban and Rural Pre-Schools	51
4.11(a) Visual Aids in Public and Private Pre-Schools	52

4.11(b)	Visual Aids in Public and Private Pre-Schools	52
4.12	Pearson Correlation Coefficient	54
4.13	Chi-square test on professional qualification	56
4.14	Findings made during Pre-school Classroom observations	58
4.15(a)	Use of Visual Aids during the live lessons observed	60
4.15(b)	Use of Visual Aids during the live lessons observed	60
4.16	Impact of well used teaching materials	61

CHAPTER ONE

INTRODUCTION

1.1 Background to the Problem

This study investigated the factors affecting the use of visual aids (non-projected) in pre-schools. McCarthy and Reid (1981), emphasize that education is a life-long process starting from birth to death. Child psychologists like Gessel, Bloom, Montessori, Brunner and Piaget advanced theories of human growth and development. They emphasized that early life experience in an individual has impacts on his or her later development. They further argued that the use of visual aids in learning during early years is important.

Ogunranti and Ihongbe (1981), define "visual aids" as any picture, model, object or device which provides tangible visual experience to the learner purposely for introducing, building up and enriching ideas. They add that it clarifies difficult notions.

They further explain that in the traditional concept, visual aids were believed to help improve instructions and not necessarily that they helped the learner learn more effectively.

Worth (1986) says that for every hour a teacher speaks, only about 8 – 10 minutes of the information given is retained in the learner's mind. But when visual aids are brought in, interest can be increased a great deal. However, the unskilled use of visual aids can do more harm than good, resulting in the waste of time for both the teacher and the learner. For example when a teacher uses visual aids that are not relevant to the theme, she/he is teaching like using a picture of an animal when the theme is "members of the family."

It is worth noting that, the attention span among pre-school children is much shorter and a teacher using scanty teaching aids or none at all will not achieve much in her/his teaching.

Worth (1986), further goes on to say that the use of relevant visual aids has the following advantages to teachers:

- Visual aids help in the exposition of the learners by teachers and save teachers from teaching domination.
- Visual aids arouse interest in the learners.
- Visual aids save teaching time. Use of relevant visual aids presents the information much more quickly than long wordy descriptions. For example, the use of diagrams showing the different parts of a plant or the real plant will be more meaningful than a mere verbal description.
- Visual aids give meaning to words. The use of a picture of a cow for example during an environmental activity can save the teacher from using too many words to describe the animal.
- Visual aids can give accurate impression. They define facts and information easily and precisely. They identify and describe inconcrete terms.
- Visual aids help memory. They help learners to recall better whatever they have learnt or seen.
- Visual aids stimulate imagination. Visual aids are a starting point for thought. When learners view a picture of an object which is unknown to them, it helps them to form mental pictures of actual situation.
- Visual aids can bring distant environment into the classroom.
- Visual aids promote critical thinking.
- Visual aids simplify situations and enable the learner to perceive more clearly what cannot be seen and understood easily.
- Finally, it is important to note that the primary functions of visual aids as communication device is to serve as a more concrete referent to meaning than the spoken or written word. Visual aids are iconic. They resemble the thing that they represent. Therefore, they serve as

concrete clues to meaning. This enables the visual aids to be easily interpreted by both the young and the old. They transcend all language barriers. The closer they are to the object they represent, the more likely they are to prevent breakdown in communication.

Feshbach (1973), says that the pre-school education in England puts a lot of emphasis on teaching materials. Equipment that must be available in pre-schools most of the days are clay, dress-up clothes, housekeeping materials, puppets, puzzles, books, science materials and trucks.

He also reports that separate nursery schools in England have more play materials and equipment than do nursery classes attached to infant schools.

Feshbach (1973), reports on pre-school education in Israel. He says that the Ministry of Education and Culture employs pre-school supervisors, construct classrooms and equips classrooms with a variety of teaching materials. In addition, each pre-school teacher is provided with a budget for the purchase of educational supplies and visual aids.

Goodland (1973), reports that some parts of USA adopted the Montessori method while others used college laboratory pre-schools. One common feature about the two was the need for abundant teaching materials.

Usuala (1984), undertook a study entitled, "Education Technology in Africa". In his study, he reiterated the effectiveness of teaching materials in pre-schools in Africa for instance charts, flash cards, realia and toys. He also expressed the recognition of the importance of these instructional aids by a number of African countries. This has led to the establishment of educational technology centres in a number of African countries for instance Ethiopia and Nigeria.

For early childhood education to be effective, the Ministry of Education in Kenya has also put a lot of emphasis on the use of abundant and variety of teaching materials. This is evident in KIE (1989) which emphasizes that children learn best through first-hand experiences. So, a wide variety of materials should be

provided in pre-schools to enable children to engage in various activities. The exposure of children to various materials helps them to learn and to remember what they learn and thus enjoy their learning. This could be a joint effort involving the teacher, children and local community especially parents.

KIE (1999), further reiterates that a wide variety of materials and equipment are necessary for the play, learning and development of children. The caregivers (teachers), parents and the entire community should participate in the provision and development of the materials and equipment. Therefore children should be allowed to play with the materials to enable them to learn. From the short background given on pre-school education in England, Israel, USA, and some parts of Africa particularly in Kenya, it is clear that the use of teaching materials is the core of effective ECE programmes.

Shiundu and Mwaura (1992), report that since 1969, a number of researches and evaluations have been done on pre-school education. The institutions that have been mainly and directly involved in research in ECE include the National Centre for Early Childhood Education (NACECE), District Centre for Early Childhood Education (DICECE) and the universities. In the universities, most of the research done on pre-school education is by individuals for the purpose of certification and improved practice. Some of these researches have been sponsored by UNICEF, Bernard van Leer Foundation, Aga Khan Foundation, Nestle Nutrition Grant Programme, Fulbright and universities. These studies broadly cover various topical areas like performance and factors influencing it, teaching methodology, the curriculum, access and distribution as well as the general evaluation of the programme.

Two major evaluations have been, carried out in Kenya. The first one was done in 1987 to evaluate the NACECE-DICECE programme and the second one in 1989/1990 to evaluate the Aga Khan Foundations sponsored DICECEs. The team looked at the work of pre-school teachers that had graduated from training colleges and also that of the untrained teachers and documented several contrasts. There were scanty materials used or, in some cases no materials at

materials at all. The few materials in private schools were a little better. The following observations were made about the teachers who had the few materials:

- A few number and letter charts available in the classrooms were poorly written.
- Untrained teachers hardly used any visual aids. However, those that tried to irrelevantly did so.
- Use of unsafe materials by children such as tins with sharp edges, uncleaned insecticide containers and broken bottles.
- Some teachers did not allow children to play with the few materials in the learning corners. The materials were coated with layers of dust, which meant they were not used and hence put there for a show. Ministry of Education and Bernard van Leer Foundation (1987).

In 1990, the Ministry of Education with Aga Khan Foundation carried out another evaluation on Aga Khan-sponsored DICECE schools in Kenya. The team came up with the following findings: That a number of pre-school teachers rarely used the materials. And that age, experience, academic and professional qualification played an important role in the ability to use visual aids. However, teachers that had a few visual aids had problem with labelling and displaying of charts. The lettering and labelling on the charts were sometimes inaccurate and unclean. Some teachers rarely displayed their few charts while some displays were disorganized making it difficult for effective utilization. It was further discovered that the materials available were very few, limited in variety, poorly stored and there was total lack of materials for the under threes, Ministry of Education and Aga Khan Foundation (1990).

1.2 Statement of the Problem

From the two evaluation reports cited above, it appears that most Kenyan pre-school teachers used teaching aids. It sparingly was therefore, the evaluation reports that prompted the researcher to find out the factors that influenced inadequate use of the visual aids in pre-schools. And this is the statement of the problem.

Researches have been carried out on factors affecting the use of visual aids in primary and secondary schools in Kenya as evidenced in the literature review. However, to the best of the researcher's knowledge, there was still a gap to be filled in the pre-school education level hence the reason for this study.

1.3. Purpose of the Study

The purpose of this study was to find out factors that contribute to the use or non-use of visual aids by pre-school teachers in Asego Division, Homa Bay District.

The objectives of the study were:

- (i) To identify the extent of use of various types of visual aids for example still visual aids, graphic visual aids, three dimensional visual aids and realia;
- (ii) To identify factors that led to use of teaching materials among pre-school teachers;
- (iii) To compare and contrast the usage of visual aids in urban/rural, private and public pre-schools;
- (iv) To compare and contrast the use of visual aids according to training level of teachers;
- (v) To determine the strategies used in acquiring the visual aids;
- (vi) To identify the problems that the teachers experienced as they acquired the materials. and
- (vii) To find out whether pre-schools had stores for keeping visual aids.

1.4 Research Questions

The following research questions carried the study:

- (i) What were the factors that contributed to the use of visual aids by pre-school teachers?
- (ii) Which visual aids were available for teaching pre-school children?
- (iii) How were the visual aids acquired?
- (iv) Did professional training influence acquisition and usage of visual aids?
- (v) What problems were encountered in the acquisition and maintenance of visual aids?

- (vi) What were the opinions of pre-school teachers for improving the acquisition and use of visual aids in pre-schools?

1.5. Significance of the Study

The findings of this study may help:

Pre-school teachers to see the need for including auxiliary parties in collecting visual aids.

School Inspectors and Education Officers correct an area of weakness (the need to use a variety of visual aids) in pre-school education that requires immediate attention.

Pre-school teacher trainers detect the need for instilling more emphasis on this area during training.

Ministry of Education policy makers reconsider the situation with more concern. And general readers acquire knowledge in the use of visual aids in pre-school teaching.

As a long term DICECE trainer and schools Inspectors, the researcher had noticed scarcity of teaching materials in most ECD centres. This, alongside the two evaluation reports, arouse his interest in researching into the subject.

1.6 Basic Assumptions

In this study, it was assumed that: The randomly selected pre-schools would be representative of Asego Division pre-schools, Homa Bay District.

The use of visual aids and play materials in teaching pre-school children was a prerequisite.

The use of a variety of visual aids was a characteristic of quality pre-school teaching.

Availing and using a variety of visual aids in pre-school classes was part of terms and conditions of employment of pre-school teachers.

And following recent financial assistance to all Early Childhood Development (ECD) programmes in the country by World Bank, a good majority of pre-school

teachers were trained and should know how best to acquire and use visual aids in their pre-school classes.

1.7 Scope and Delimitation of the Study

The study was only confined to a few pre-schools in three educational zones, i.e. Urban, Asego and Kabunde in Homa Bay District. Since this study was mainly conducted in the rural area where means of communication are poor, it was not possible to visit all schools. Furthermore, the time set aside for this study could not enable the researcher to visit all the schools in the division. Financial constraints became a limitation in covering a wider area in the study. The researcher assumed that the respondents of this study were reasonably, honest and their practices expressed true feelings when responding to the questionnaire. The validity of this study depends upon such an assumption.

1.8 Definition of Operational Terms

Graphic Visuals	-	These refer to charts, posters, and drawings.
Non-projected visual aids	-	Visual aids which do not require projection i.e. the images do not need to be projected onto a screen.
Pre-school	-	An institution providing pre-primary education.
Pre-school teacher	-	Refers to a teacher who is charged with the responsibility of teaching pre-school children.
Private pre-schools-		These are pre-schools run by either individuals, groups of people, churches or firms or companies.
Public pre-schools	-	These are pre-schools developed by community members through harambee effort and are managed by selected committees. The schools could be either within or outside primary school compound.
Realia	-	This refers to real things for instance coins, tools, artifacts, plants, animals, including objects and specimens.

- Rural schools - These are schools found outside Homa Bay town or township setup. They could either be private or public.
- Still visual aids - These include pictures, diagrams, photographs, book illustrations and flip charts.
- Three dimensional visual aids - These are non-projected materials that are seen in three dimensions and are used when a teacher would like to show length, breadth and depth. Examples are fitting shapes, building blocks, toy cars/trucks, wooden letters/numbers, objects, and animals. They include models, dioramas and mobiles.
- Training status - The type of training certified by: DICECE, KHA, Montessori, or other certified training centres.
- Urban schools - Schools that are found within Homa Bay town. They could either be private or public.
- Visual aid - A device through which the learning process may be encouraged or carried out through the sense of sight and touch. Among the visual aids include pictures, models, maps, photographs, etc

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Empirical Studies

Quite a number of studies have been carried out by various researchers in the area of production and qualitative and quantitative use of visual aids in learning institutions. This refers to number and value of the use of teaching materials. In this section, a few of the recent findings related to the importance of visual aids have been reviewed.

2.1.1 Research Studies Outside Kenya

Narayan (1995), of Spain emphasizes that there is every need for the teacher to reinforce her/his oral instruction by using visual materials. In his book, he asserts that audio-visual materials in the form of pictures, charts, maps, slides, film strips, recordings etc when properly used can make a contribution to learning. He further reinforces the role of textbooks, oral instructions and exercises.

Narayan further states that a visual representation of an idea or a concept using a picture or a chart helps children to develop mental images of the objects that we are talking about. Visual representation adds variety to teaching and breaks the monotony of verbalism in classroom instruction. Alan and Mayes (1995), having carried out a survey on the five senses of a human being and the part they play in learning, he affirmed that of all the senses that we use, the sense of sight is most vivid and provides rich experiences to the individual.

Narayan adds that impressions created by the sense of sight cannot easily be erased since a visual will not only attract the attention of the pupil but also hold it for long as it appeals to the sense of sight. His view clearly supports the importance of the sense of sight in a learning situation and hence the need to use visuals.

Allen and Hart (1996), state that besides using teaching materials, the teacher must ensure that a variety of the same are availed in class for effective teaching/learning. They say that the materials and equipment presented in early childhood setting should be chosen to provide many and varied opportunities for children to acquire the learning they need. Thus, children are offered many opportunities to practise and master familiar skills through a variety of materials. By having a variety of materials, teachers can readily adapt the setting to individual as well as group learning needs. The more skills a particular material prompts a child to learn, the better the material is. For example showing a picture of a cow to pre-school children will make them understand it much better than explaining what it is.

Heinich Malenda and Russel (1996), further support the subject by saying that the primary function of a visual as a communication device is to serve as a more concrete referent to meaning than the spoken or written word. They therefore, conclude that visuals are more clearly and easily understood than verbal messages.

According to Deharen (1997), any creative pre-school teacher should not toil alone trying to avail visual aids for her/his class. Instead, she/he should engage the services of other willing people to do the job. The author says, the teachers should devise many learning aids to use in their classrooms. Old socks become hand puppets, the carton from a new mattress becomes a game board that early childhood education children can actually sit or walk on, plastic egg carton holds letters for spelling games and the attics of friends.

Specialists, teacher aides and volunteers are important personnel resources for teachers. In fact, they can be referred to as auxiliary personnel as they may be called upon for consultation and help in developing programmes or in working with individual children. In some schools, teacher aides are employed to help with some of the "behind-the-scene" work of teaching. Sometimes, parents or other adults in the community may be willing to donate their time to help at

school. These volunteers are often talented and highly capable individuals who simply enjoy spending a few hours regularly in the school. Examples of the kinds of tasks they may volunteer to do include making teaching/learning aids.

Kessler and Swadener (1992), who look at curriculum issues in ECE state that the type of materials in class will shape children's activities and that there is need to encourage the use of more versatile materials. They point out that the equipment and the materials available to the children shape their activities. They add that children's use of materials does vary based on each child's interest, previous experiences and immediate goals. There is a consistency in the behaviours objects elicit. More versatile materials are more likely to elicit complex improvisation during play.

They add that the arrangement of the materials in the classroom also has an impact on children's play. Ordinarily early childhood classrooms have well-defined spaces for play and the size and the arrangement of these play spaces influence children's activities.

Jackman (1997), emphasizes on the need to use a variety and sizeable materials by pre-school children. He explains that both pre-school boys and girls need experiences with the same kind and a variety of learning materials. For example, soft toys, big and comfy pillows and furnishing that fit the children's size, abilities and interests should also be included.

Jackman further explains that the sensory experience of working with a variety of textures and visual aids will encourage young children to experiment, explore and discover original ways to learn. These activities can help children release emotional tensions and frustrations, work with their hands, develop small muscles and provide opportunities to manipulate, construct and learn about spatial relationships.

He finally explains that careful selection of materials and planning to meet the developmental needs of the children are the most important responsibilities for a

pre-school teacher. A variety of materials that give children choices should be considered for the manipulative centre.

Littlewood, (1998), of the United States of America notes that mothers should be guided to become good listeners and observers to be available for trips to the zoo. They provide materials for learning as well as workspace at home. Mothers also explore the house for machines, building materials and other items that would interest their children. They observe buds and make observation charts for their children to follow as plants grow in boxes at home.

According to Littlewood, therefore, the use of visual aids must be inculcated into the children right from home by mothers and when the children go to school, the latter will be an extension of the former.

Corbin, (1998) asserts that children learn from visual aids that introduce them to new concepts and ideas such as different colours, sizes, shapes, textures etc. He continues to say that the more varied the teaching materials are in these characteristics, the more the child may be stimulated to learn. He adds that only by extending play opportunities through the use of visual aids can a child reach his potential of academic development.

Learning equipment and toys need not be elaborate. However it is important to note that a child who has nothing to visualize and no encouragement from parents or teachers is likely to be at a disadvantage when he enters class one with other more fortunate children. This means that a child who uses more visuals grasps more knowledge.

Bertram (1998), points out that teaching aids, as the name implies, are things which are intended to help the teacher to teach more effectively. Better still, they enable the children to learn more readily. Obviously, children will understand more easily if the teacher uses a working model or a picture of something which is outside their experience, than if he relies solely on verbal description of it.

Hence, Bertram also acknowledges the importance of visual aids for effective teaching.

Flynn (1998), says that teachers are urged to make room in the conventional established humanities curriculum for the study of visual language because without such training, young people will get less and less from school. They will eventually become ciphers as citizens, brain washed, manipulated by the mindless spec binders of films and television. He further says that with such training, students will get more and more out of their normal in school educational experience. Visual aids can enrich the study of all humanities disciplines while providing new skills and new forms of literacy, which are critically important to communication.

According to Flynn, the field staff of the Ministry of Education, for instance, should make sure that classroom arrangement induces learning. Hence, visual aids and teaching/learning materials should be put in their rightful places in the classroom.

Ferguson (1998), proposes that the instructions provided to the learner should proceed from direct experiences through iconic representation or through the use of objects that resemble what they represent such as pictures and films. Ferguson's idea totally agrees with Holmlund Kerstin (1996). According to Holmlund, the learner starts as a participant in actual experiences which are basically visual and then moves to become an observer of the actual event and finally the learner observes symbols that represent an event.

2.1.2 Research Studies in Kenya

Kamanja (1986) in his study on visual aids among some primary and secondary teachers, found that they have several benefits to the teaching process. He stated that visuals can give accurate impression. They define facts and information easily and precisely. They identify and describe the concrete terms.

He continues to say that visuals promote critical thinking and simplify situations. They enable the learner to perceive more clearly, what cannot be seen and understood easily.

Visual aids set the background of what is to follow. A series of photographs on the techniques of playing football might set a background during a physical education lesson on the techniques of playing football.

Ayot and Wanga (1987), in their advice to teachers, observe that teaching aids are used to increase learning, to generate more interest and to create a situation where the students would fully engage in classroom activities. They further state that teaching aids appeal to the senses of sight as well as hearing hence the name by which they are sometimes referred to as audio-visual aids. They are used by the teachers to bring into classroom selected sensory experiences with subject realities. The visual sensory skill is the most powerful of the senses. The learner can visualize, perceive and put interpretation levels to different meanings. On the other hand, the learner who is unable to see may find the acquisition and retention of knowledge very difficult unless other mechanical or technical means are used to record what has been the subject of learning.

Visual aids play a prominent role in the instructional process. However, visual aids have very often been ignored.

Standa (1995), argues that when most people think of teaching and learning in the traditional sense, they think of three things: the teacher, the learner and the book. This is inadequate because it leaves out many other experiences through which fruitful learning takes place, for example visual aids. Among the experiences that he quotes include places, people, activities and things. All these usually involve visual experiences.

KIE (1995 a, 1995 b, 1996 a, and 1996 b), defines teaching/learning aids as available means or assets which contain required information for the learner.

They spell out the functions of visual aids in a pre-school child as follows:

- Stimulation of children to preserve and develop their cultural heritage.
- Promotion of exploratory and discovery skills among pre-school children.
- Facilitation of self-expression and creativity through experimenting with materials.
- Promotion of self-discovery and identification of special gifts and talents.
- Assisting in meeting socio-emotional needs.
- Making learning more real and exciting.
- Enhancing visual and auditory perception.
- Manipulating various learning skills.

They further say that pre-school teachers should employ all possible methods to acquire teaching aids. The aids could be purchased, donated, collected or made by the teachers, parents, children and primary school community. The teachers and the children who are gifted in artwork can assist in preparing charts and pictures. This will ensure adequacy, quality and a variety of materials.

2.1.3 Factors Affecting the Use of Visual Aids in Primary Schools in Kenya

Omondi (1987). states that publications, in case of a change in the syllabus, are always late. Hence, courses often have to be started before pupils and teachers' handbooks are available. Teachers become unable to complete the year's work and pupils' attainment suffer. He further recognises that apart from lateness of the books, the books published by Jomo Kenyatta Foundation are constantly in short supply. Also, the costs are high, binding normally poor and books last only about one year. This intensifies the problem of shortage and sharing.

The importance of utilization of learning resource materials is also underscored by the Sessional Paper No. 5 of (1988). The paper states that visual aids are

basic tools for educational development and must be made available for the learner to learn some skills in using learning aids, it is necessary for the teachers to encourage them to do so. However, a good majority of teachers never do this.

Gitari (1990) in his study on library facilities in selected primary schools in Nthi, emphasises that there is acute shortage of room for storage of visual aids in most primary schools. This is not only in terms of buildings but also shelves and cupboards. As a result of this rats and ants prove to be a great menace to the stock in addition to theft. Johnson & Rising (1995) supporting the same, concurs and states that in addition to the good classrooms, each primary school needs a resource centre. However, in the absence of a centre a storage space for audio-visual aids is of paramount importance.

Investigating factors that contribute to pupil's failure in Kenya Certificate of Primary Education, Kiragu (1990) found that pupils with parents who had received no schooling rarely had many textbooks bought for them. In his study of availability and use of instructional media in teaching and learning in primary schools, Omwono (1990) says that the situation is pathetic in some schools. He states that since the inception of cost sharing in primary schools, it has become the responsibility of parents to supply instructional media. This has caused serious shortage of the same in most primary schools as not all parents are economically able to do so.

A study carried out on the roles played by Teachers Resource Centres, Okumu (1995) reveals that Teachers Resource Centre Tutors have not met most of their objectives. The main weakness is that some of them have had no prior training in handling the materials they are supposed to guide the teachers to use. The staffing of the centres has been inadequate. For example, there are no qualified technicians to assist in the teaching aids production and maintenance and operation of audio-visual equipment. The said weakness has tended to limit the effectiveness of the centre tutors.

Umbima (1995), deploras the position of visual aids in some primary schools in Nairobi. His experience is that some primary schools may be seemingly well-stocked with visual aids. However, on closer examination, the stocks are usually of irrelevant and outdated materials. Rarely are they organised in a systematic manner. Most schools have not even enough money to build a modest collection of visual aids.

From the researches carried out it is evident that the following are some of the factors that could be affecting the use of visual aids in primary schools:

- Late publication of books.
- Lack of storage facilities for visual aids.
- Illiteracy of some parents.
- Introduction of cost sharing in primary schools.
- Lack of technical know-how in Teachers Resource Centre Tutors.
- Availability of archaic teaching materials in some schools.
- Lack of encouragement of pupils to use learning aids.

2.1.4 Factors Affecting the Use of Visual Aids in Secondary Schools in Kenya

Patel (1986) states that the following factors could be affecting the use of visual aids in secondary schools:

- Some teachers are less enthusiastic about using audio-visual media.
- Teachers' failure to understand the relationship between learning outcome and media.
- Lack of skill in the teachers to carefully select communication media and channels that would help the learner receive the required materials with same intention the teacher had.
- Some teachers do not take time to learn the level of their students and therefore do not select the proper type of media to use. For

instance a conventionalized drawing may appeal to older students but not younger ones.

- Unwillingness by some teachers to improvise visual aids where commercial ones are too expensive for the school to buy.
- Rapid presentation of visual materials to students. This is detrimental to the learner as it is likely to interfere with his listening or viewing and getting meaning of the new materials.

Mutunga & Breakell (1987), say that the main purpose of use of audio-visual aids is to add the variety, the depth and the breadth which makes the learning process pleasant and meaningful. They add that some of the audio-visual aids that should be used in secondary schools are films, television, filmstrips, tapes, charts, pictures, projectors, bulletin board displays and sketches. However, in Kenyan situation some of the cited aids may not be used for varying reasons. Such reasons include high cost involved, non-existence of appropriate programmes to accompany the gadgets and even shortage of the experts to operate them.

And so in secondary schools the factors are:

- Lack of enthusiasm to use aids by teachers.
- Failure to recognise the importance of audio-visual aids.
- Inability to select relevant aids by some teachers.
- Unwillingness to improvise where necessary.
- Poor method of presenting visual aids.
- High cost of some aids.
- Shortage of experts to operate the aids.

2.2 Theoretical Framework

There is a number of theories related to learning. Some of them include learning theories by Piaget, Bloom, Brunner, Gessel and Systems Approach to classroom teaching etc. This study will be guided by the following theories:

- Piagetian Cognitive Development theory with reference to Concrete Operational Stages. and
- Systems Approach to classroom teaching.

2.2.1 Cognitive Development Theory-Concrete Operational Stage

According to Piagetian theory of concrete operational stage, a child gets to this stage at age seven and remains in the same upto eleven years. Piaget goes on to say that during the stage, the child starts to understand and sometimes apply logical operations. He starts to understand the basic ideas of conservation and classification using concrete objects. Kiminyo, Munavi and Wamani (1992).

The theory states that it is worth noting that there is no abrupt transition to concrete operations, as the foundation of each stage is found in the previous stages. Each stage may be thought of as a process of re-ordering and recombination and as richer than the previous stage. This transition or projection to a higher stage and the accompanying process of re-ordering – that is the mechanism of reflexive abstraction are at this stage both related to concrete objects.

The theory continues to state that “concrete” in the real sense means that the child can think in a logical coherent manner about objects that do exist and have real properties and about actions that are possible. He can perform the mental operations involved both when asked purely verbal questions and when manipulating objects. The important point is that initially the operations are concrete for they are used directly on objects, so that the objects may be manipulated. Manipulation may take various forms: putting objects together into a class (round objects into a pile), separating a collection of objects into sub-classes (dividing round objects into small and large). Children can as well set up correspondences between objects or relationships (selecting a form of the right size in which to place each of a set of discs). They can order objects (placing sticks of various lengths into a series from short to long), ordering events in time (knowing the sequence of events in a story in logical order) and measuring

objects in space (finding the height of a tower of blocks on a table or floor). McCarthy and Reid (1981).

Piaget further says that while the concrete operational child evolves a functional use of logic not evidenced in the behaviour of younger children, he does not attain the highest level of use of logical operations. Here the term "concrete" (as in concrete operations) is significant. While the child clearly evolves logical operations, these operations, for instance reversibility, classification are only useful to him in solving problems involving concrete (real, observable) objects and events. For most part, the child cannot yet apply his logic to problems that are hypothetical, purely verbal or abstract. If the concrete operational child is presented with purely verbal problem, he is typically unable to solve it correctly. If the same problem is presented in terms of real objects the child can apply his logical operations and solve the problem.

Concrete operations presuppose that mental experimentation still depends upon perception. The individual in the 7-11 year age range cannot perform mental operations unless he can concretely perceive their inner logicity. Wadsworth (1979),

From the theory explained above, it is therefore, very clear that children within concrete operation stage (a stage in which most pre-school children are) cannot effectively learn without manipulating and observing objects.

2.2.2 Systems Approach

The systems approach by Sampath (1981) is a scientific method derived from the general systems theory. It is a method by which units, parts (elements) are viewed as existing in interaction and are interrelated in some arrangements to fulfill various identifiable purposes. This approach though applicable to economic, political and biological processes has been adopted and modified to be used in the school-teaching situation. In school teaching, there must be goals i.e. – long-term and short term. There must also be more than one element

which could refer to the teacher, learners, content, examinations, harmonious activities that work according to the school calendar. Also schemes of work, lesson plan, visual aids, school timetable and physical facilities. Finally, there must be some feedback, which refers to the teachers' questions in the classroom, continuous assessment and written tests. So for successful teaching, the goal, the elements, the visual aids, the harmony and the feedback must be there. Ayot and Patel (1982).

Sampath (1981), further states that in a systems approach, more than one element or component is functioning in harmony to achieve a common goal. In a classroom teaching situation, there are components such as content, time, evaluation of the performances, objectives, space, teaching aids (visual aids), media size of the group and feedback. All the said elements are to be considered in a successful teaching. All of them are interdependent. None of the elements can be planned or thought out in the absence of the other. One cannot bring in change in one area without affecting or disturbing the other elements. None of the elements can be ignored. Ignoring any one element can result in the failure of the system. This means that the use of any specific media depends on so many factors such as objectives, type of content, time, space, group and teaching aids (visual aids).

All the elements of the system should work in harmony to achieve the same goal. The learning materials being one of the elements should also be in harmony with the others. The availability of the materials itself does not guarantee the achievement of objectives. They should be presented at the proper time in the proper way. Patel and Mukwa (1993).

From the two theories above, it is evident that effective teaching, especially in pre-schools is hampered in the absence of visual aids.

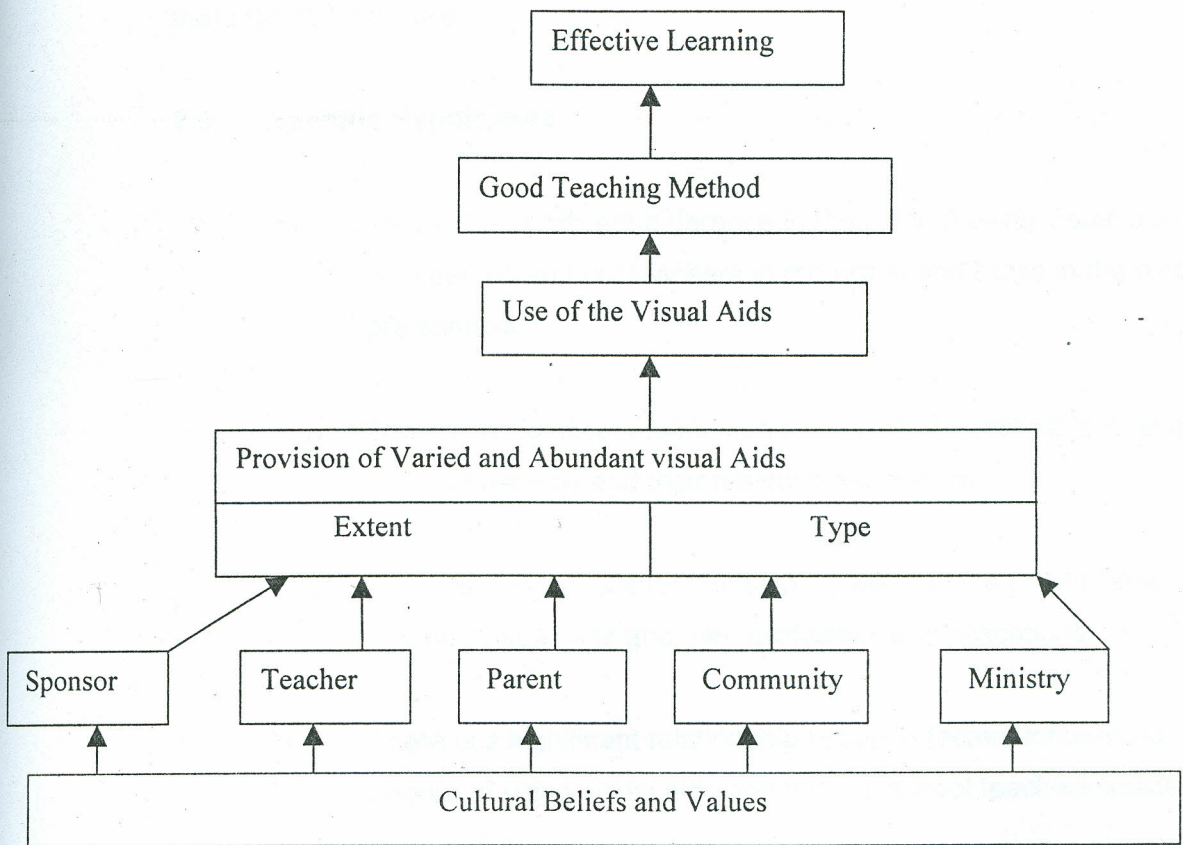
2.3 Conceptual Framework

KIE (1995 c), states that it is the duty of teachers, parents and community members to provide visual aids and play materials to pre-schools. This

therefore, means that a community whose cultural beliefs and values are positive towards pre-school education will create effective learning/teaching environment for its children. "Extent" refers to the number of visual aids used while "type" means how varied they are. Table 4.4. further explains the word "types".

The conceptual framework below provides a structural overview of what happens:

PROVISION AND IMPACT OF VISUAL AIDS



KEY

SOURCE: Adopted from KIE (1995)

→: Influences

2.4 Summary

From the literature reviewed, it is evidently clear that for effective teaching, and more especially of pre-school children, visual aids must be used to contain their short span of concentration. The teaching aids will ease the teachers' work and also enhance children's understanding of the activity.

The two evaluation reports on pre-schools by Bernard Van Leer and Aga Khan Foundations carried out in 1987 and 1990 are very revealing. One of the problems cited was that visual aids were not adequately used in pre-schools. It is because of the same that the researcher had decided to find out the factors that affected their use.

2.5 Specific Hypotheses

- H_{A1} There is a significant difference in the level of using visual aids between pre-school teachers in the urban and those in the rural pre-schools.
- H_{A2} There is a significant relationship between the teacher's level of using visual aids and their teaching experience.
- H_{A3} There is a significant relationship between the teachers' level of using visual aids and their professional qualifications.
- H_{A4} There is a significant relationship between factors influencing the degree of using visual aids and the pre-school teachers academic qualification.
- H_{A5} There is a significant difference in the level of using visual aids between pre-school teachers in the private schools and those in the public schools.

H_{A6} There is a significant relationship between pre-school teachers' demographic characteristic (age) and factors that affect the use of visual aids.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter consists of the research design that was adopted in this study, target population, sample and sampling procedures. It also contains a brief description and data analysis procedure used.

3.2 Research Design

The survey method was used to collect data pertaining to pre-school teachers' use of visual aids. An ex-post-facto research design was also used.

The researcher administered survey method and ex-post-facto design because both methods involve making individual contact with the respondents. By so doing he was able to receive accurate data. The ex-post-facto method was used to find out how the absence of visual aids would affect the learning of children

Independent variables in this study were teaching materials used. They were considered independent variables because, if used adequately and relevantly, would be assumed to cause improve in children's understanding of class activities (subjects). Dependent variable on the other hand was the improvement in understanding the activities taught using adequate teaching aids. Adequate and relevant teaching materials were supposed to cause improved understanding of the activities. The improved understanding of children would be measured through their ability to: (a) correctly carry out instructions, answer oral questions accurately, dramatise situations learnt with ease and model/draw with a lot of keenness. This the researcher measured during class observation it is,

therefore, important that for effective learning/teaching of children teachers must use abundant and varied visual aids.

✓ 3.3 Population

This study concerned itself with pre-school teachers in Asego Division of Homa Bay District. The division is made up of urban, rural, public and private schools. The administrative Division of Asego is divided into 3 educational administrative zones namely urban, Kabunde and Asego. Each of the zones is under the supervision of a Zonal Inspector of schools. The whole division is under an Education Officer.

At the time of this study, Asego Division had a total number of seventy (70) pre-schools with one hundred and eight (108) pre-school teachers. Gender variables of the teachers was not included in the study because almost all pre-school teachers were ladies. The enrolment then was 2,590 children ranging from ages 3 to 6 years.

3.4 Sample

Due to financial constraints and time factor, the researcher decided to reach thirty percent (30%) of pre-school teachers. These were thirty-six (36) teachers that completed the questionnaire in Appendix A. From there the researcher visited two pre-schools in each zone to evaluate the position and use of visual aids and also observed live lessons.

✓ 3.5 Sampling Procedure

After full details of the population were obtained and decision was reached on the number of teachers to involve in the study sample, names of all the 108 pre-school teachers were written on a piece of paper and a stratified random sample was employed in the study. The names of the teachers were grouped according

to the regions they came from i.e. public urban, public rural, private urban and private rural. The pieces of paper were folded and put in four different containers where they were thoroughly mixed. An independent person was invited to pick nine pieces of paper from each container without looking. Each time a draw was made, the pieces of paper were thoroughly mixed again. Through this procedure the 36 required pieces of paper were picked. This ensured that every one of the 108 teachers had an equal chance of being selected. This draw provided the names of all the teachers that were visited for the purpose of the study.

3.6 Instruments

To facilitate the study, a questionnaire and an observation schedule were developed by the researcher.

3.6.1 Questionnaire

The questionnaire had three (3) parts. Part 1 elicited information on teachers' personal data, such as the teacher's school, age, type of training, highest academic qualification, teaching experience, number of schools taught and school hours.

Part 2 had five open-ended items which required the respondents to name; why they liked teaching using visual aids, what bothered them as they used visual aids, places where they could obtain visual aids from factors that hindered the use of visual aids and types of visual aids they used in their respective pre-schools.

Part 3 of the teachers' questionnaire was Likerts scale survey used by Kamanja (1986) adopted and modified to suit the research. The scale comprised 40 items which were intended to measure attitudes, opinions perceptions, values of the pre-school teachers. Likerts scale consists of numbers and descriptions which

are used to rate or rank the subjective and intangible components in research. The numerical scale helps to minimize the subjectivity and make it possible to use quantitative analysis. Mugenda olive and Mugenda Abel (1999). One of the best known diagnostic instruments is a questionnaire designed by Likert (1967) which leads to a profile of organizational characteristics: leadership processes, motivational forces, communication processes, interaction-influence processes, decision-making processes, goal-setting and priority-ordering processes and control processes. Entristler (1990). The rating scale works best with literate people (like teachers) who are accustomed to structural questions and answers. Each individual respondent was given the questionnaire to complete.

3.6.2 Observation Schedule

The observation schedule was used to observe availability and suitability of visual aids in the schools. The researcher expected suitable visuals to be varied and abundant. This was supposed to include the four types of non-projected visuals, for example still visuals, graphic and printed materials, three dimensional materials and realia. Besides the researcher observed what the children were able to do as a result of good use of visual aids.

3.7 Piloting

Before the actual study was done, the researcher carried out a pilot study with a sample of four (4) pre-school teachers – two from urban and the other two from rural schools. The subjects in the pilot study were excluded from the actual study. The respondents for the pilot study were selected through random sampling. Names of pre-school teachers in schools in urban and rural which are on the main road were written in pieces of paper and put in two containers. These pieces of paper were folded and mixed thoroughly in the containers. Four of these pieces of paper were picked. The names of the schools which were picked were visited for the pilot study.

The major objective of this pilot study was to test the validity and the reliability of the instrument and to correct any ambiguities that were detected in the questionnaire. As a result of the pre-testing, certain changes were made on the content and format of the questionnaire to help in validating the data for the study. Detected were majorly grammar mistakes that caused a lot of ambiguity in understanding the original tools. These had to be put right.

3.8 Data Collection Procedure

After the area of study had been identified, a visit was made to the Divisional Education Officer who acquainted the researcher with important information and data on pre-schools. Further visits were extended to the Zonal Inspector of Schools (ZIS) of the three educational zones that were to be covered in the study. These visits were to make the education officers aware that the researcher was going to visit some schools in their area for the purpose of the study.

The revised and finalized questionnaires were administered personally by the researcher to all the 36 teachers to ensure correct responses, maximum return rate and nil timeliness (Appendix A). On visiting the schools, the researcher was directed to the headteacher's office. The headteachers were briefed on the purpose of the visit to their schools. Usually, the heads of the schools assembled the teachers in the school staffroom where they were introduced and then the researcher briefed them on the purpose of the visit. In order to avoid errors, the researcher conducted a short preliminary briefing session before distributing questionnaires to the respondents for their completion.

After the researcher had received back all the 36 questionnaires, he organized another visit to 6 pre-schools, two in each educational zone. Again random sampling method was used to get the six schools. The purpose of the visits was to observe live lessons and also find out the practical availability, use and

storage of visual aids. As he was doing that he quietly completed a structural observation schedule (Appendix B).

3.9 Data Analysis

Data were analyzed by tallying frequencies which the researcher calculated into percentages. Responses to the open – ended items in Part 2 of the instrument were listed down. They were analyzed qualitatively since they were meant to give views of the teachers about the availability and the use of visual aids. It was established which factors contributed to the teachers for example for using visual aids as they taught, what bothered them as they used visual aids, places where they could obtain visual aids factors that hindered their use of visual aids and the types of visual aids they used in their respective schools. Once the factors that contributed to the five open – ended questions had been identified, frequencies and percentages were worked out for the responses.

In Part 3, responses of the subjects were tabulated to establish the number of the subjects who were found within the categories of not applicable, fair, very fair, good, very good and excellent. Since the maximum marks for excellent was computed at 200, the same figure was divided by 5 to give average marks for each area. Thus fair = 0-40, very fair = 41-80, good = 81-120, very good = 121-160, and excellent = 161-200. Going through all the questionnaires it was discovered that they all ranged between 40 and 160 marks. Hence the researcher confined his analysis to very fair, good and very good on the Likert's scale.

To establish whether the responses of the perception of the teachers were or were not influenced by the various personal characteristics of the teachers, some selected personal characteristics of the teachers were utilized for this purpose. Data collected were classified into the following categories; age, type of training,

highest academic qualification, teaching experience, number of schools taught and location of the school (urban or rural). Frequencies and percentages were tabulated to determine how the responses were among the teachers in their various categories. A description of the observation of these responses was given.

Using Pearson correlation coefficient, SPSS table developed from the relationship between teachers' characteristics and Likert's scale, the researcher was able to test the following hypotheses at a significant level of 0.05.

Hypotheses Ho1, Ho2, Ho4, Ho5 and Ho6 were tested using Pearson Correlation Coefficient while Chi-square was used for Ho3.

The following chapter presents the findings of the study:

CHAPTER FOUR

ANALYSIS OF DATA AND FINDINGS

4.1 Introduction

In this chapter, the analysed data are presented and interpreted. A summary of data on demographic and personal characteristics of respondents is also presented.

4.2 Characteristics of the Respondents

In Table 4.1 is presented a summary of the personal characteristics of the respondents. These are given in frequency distribution and as can be observed from the table below, more than half of the pre-school teachers were below 31 years of age. This is a clear evidence that a good majority of the teachers were 30 years or below as they formed 55.5 percent of the respondents.

In terms of academic qualifications, 55.5 percent of the teachers had attained form four education. Most of the remaining teachers were either of class 7 or 8. It was unfortunate to learn that none of them had attempted form six nor degree work. It is therefore right to conclude that a good number of Pre-school teachers are still poorly educated and hence need to be given the opportunity to improve their academic qualifications.

Table 4.1: Summary of Characteristics of the Respondents

CHARACTERISTIC	FREQUENCY OF RESPONSES	PERCENTAGE OF RESPONSES
Age In Years		
21 – 25	3	8.3
26 – 30	17	47.2
31 – 35	9	25.0
35 – 40	6	16.7
Over 40	1	2.8
Academic Qualification		
CPE	7	19.4
KCPE	7	19.4
KJSE	2	5.6
KCSE	17	47.2
KCE	3	8.3
Experience Before Training		
Less than 5 years	30	83.3
6 – 10 years	5	13.9
Missing case	1	2.8
Type Of Training		
DICECE	35	97.2
Montessori	1	2.8
Experience After Training		
Less than 5 years	25	69.4
6 – 10 years	10	27.8
Over 20 years	1	2.8
No. Of Schools Taught		
One school	12	33.3
Two schools	10	27.8
Three schools	10	27.8
Four schools	2	5.6
Five schools	1	2.8
Missing case	1	2.8
School Hours		
Morning	22	61.1
Morning and afternoon	14	38.9

The kind of training that the Ministry of Education, Science and Technology offers to pre-school teachers in Kenya is in-service in nature. This, therefore, means that only teachers in the service can go for training. In fact, they must have taught for at least 2 years. It is because of the same reason that 83.3 percent had experience before training of 0 -5 years while 13.9 percent had experience of 6 – 10 years.

One of the notable observations from the above data was that a good majority of trained teachers (97.2%) percent had gone through DICECE type of training. The foregoing table shows that the majority of the teachers had a teaching experience after training of less than 5 years. This formed 69.4 percent of the sample. This indicated that over two-thirds of pre-school teachers were not only young but also had a short teaching experience.

As can be observed from Table4.1 above, the majority of the pre-school teachers had taught in 1-3 schools. This could be presented in the form of 88.9 percent. This could be true because most of the sample population had not worked long enough as to be in many schools. Lastly table 4.1 shows that 61.1 percent of the teachers worked half day that is to say, during morning hours only. This, therefore, means that the said percentage of teachers did not go back to school in the afternoon to make visual aids or conduct remedial classes.

4.3 Sources Of Visual Aids

Table 4.2: Sources of Visual Aids

Item	No. Agreeing	%	No. Disagreeing	%
1. Brought by children from home	34	94.4	2	5.6
2. Picked from the environment	33	91.7	3	8.3
3. Picked from market	27	75.0	9	25.0
4. Teachers' own collection	26	72.2	10	27.8
5. Provided by school management	2	5.6	34	94.4

From table 4. 2 above, most teachers stated that children play a key role in collecting visual aids that are used for teaching. The aids were either brought from home, picked from the market or school environment. Of course all these were done by the instructions from the teachers. However, it was sad to note that school management played a very limited role in providing the same. The management here could be referring to school heads, committee members, or proprietors.

4.4 Hindrances to Use of Visual Aids

Presented in table4.3 are the responses of the teachers about factors that hindered their use of visual aids. The responses are arranged in ranking order. These indicate the number of respondents who agreed with each aspect and those who disagreed. Percentages of these responses are also indicated.

From the table, it was observed that 100.0 percent of the pre-school teachers stated that lack of adequate and proper storage facilities hindered their use of visual aids. It was also learned that a great majority (83.3%) of the teachers were unable to satisfactorily use visual aids due to lack of finances. Some materials

used in making visual aids for example manilla cards, felt pens, ink must be bought with teachers own funds.

Three quarters of the teachers (75.0%) who participated in this study said that they were unable to use visual aids effectively because their classroom doors and windows were unlockable. This is a clear indication that a good majority of the teachers were unable to use and leave their visuals in the classroom or they would be stolen.

Table 4.3: Factors That Hindered the Use Of Visual Aids By Pre-School Teachers

Item	No. Agreeing	%	No. Disagreeing	%
1. Lack of adequate and proper storage	36	100.0	0	0
2. Lack of finances	30	83.3	6	16.7
3. Classrooms with unlockable windows & doors	27	75.0	9	25.0
4. Lack of adequate time for material development.	27	75.0	9	25.0
5. Failure by field education officers to organize material development. workshops	26	72.2	10	27.8
6. Abuse of visual aids by intruders	25	69.4	11	30.6
7. Lack of co-operation between teachers and members of the community	23	63.8	13	36.2
8. Some teachers were not devoted/determined	20	55.5	16	44.5
9. Some stores were not secure	18	50.0	18	50.0
10. Lack of thoroughness at some teacher training colleges	18	50.0	18	50.0
11. Inadequate space in some classrooms	18	50.0	18	50.0
12. Lack of awareness by some teachers	10	27.8	26	72.2
13. Conducting lessons under trees by some teachers	10	27.8	26	72.2
14. Some pre-school children spoilt visual aids in their classrooms	10	27.8	26	72.2
15. Poor remuneration to teachers	10	27.8	26	72.2
16. Lack of skills of making visual aids by some teachers	7	19.4	29	80.6

Another 75.0 percent of the teachers said that they did not have adequate time to sit down and develop materials. From Table 4.4 it was observed that 61.1 percent

of the teachers didn't go back to school in the afternoon. And so it is very true that the teachers could be lacking time for making visuals.

From the tabulation the teachers accused the education staff of failing in their obligation. There is the need to organize frequent refresher courses in material development. Up to 72.2 percent of the teachers said the same. This could be the case due to lack of raw materials, manpower or time.

Since most of the pre-school classrooms had no door and window shutters or had very weak ones, intruders were able to find their ways into such classrooms. From table 4.3, a total of 69.4 percent of the teachers said that intruders forced their ways into such classrooms and misused the visuals left inside.

Lack of co-operation between teachers and members of the community was said to be another hindrance to the use of visual aids. This was stated by up to about 64.0 percent of the pre-school teachers that participated in the research. This was very unfortunate because from Table 4.2 above, most of the visual aids came from children's homes. For the children and their parents to continue supplying pre-schools with the necessary visual aids, the two must relate very cordially. However, further explanation to this issue stated that parents found it difficult to converge at schools regularly for material production.

Some teachers were not motivated and therefore lacked devotion and determination at work. On the other hand, there could be some underlying factors that might have contributed to this. Over 55.0 percent of the teachers emphasized that lack of devotion/determination was a hindrance. For pre-school teachers to be effective, they at least require some incentives. This could take the form of good pay package and allowances like house and medical allowances. Also, the teachers needed recognition by the education authorities.

The above remuneration package was mentioned by 27.8 percent of respondents. It was also suggested that Ministry of Education should identify a common employer for all pre-school teachers in the country.

Fifty percent of the teachers felt that a few storage facilities available in some of their schools were not safe at all for their visual aids. Even the unauthorized had access to them. Replacing lost items from such store was identified as a problem.

It was noted that the calibre of tutors available at various Pre-school Teacher Training Colleges varied from place to place. Fifty percent of the teachers indicated that some of the trainers were not thorough in carrying out their work. Such tutors produced teachers who were not able to carry out their duties well. To suppress this attitude, Kenya Institute of Education should organize regular seminars and workshops in various activity areas.

For thorough use of visual aids in a pre-school classroom, enough space must be provided. However, 50.0 percent of the teachers felt that their classrooms did not have adequate space. This meant that, however many visuals the teachers brought into their classrooms, the children were not able to use them effectively.

To confirm that some teachers had not been thoroughly trained, 27.8 percent of the respondents felt that they were not aware of the importance of visual aids. It is the responsibility of the Teachers Resource Centre Tutors, School Inspectors and DICECE staff to up-date such teachers. This can be done at residential seminars/workshops. The same can be mounted at the district or the divisional level.

About 29.0 percent of the respondents stated that conducting lessons under trees by some teachers was yet another hindrance to the use of visual aids. A

teacher conducting a lesson under a tree will always find it too difficult to display all the visual aids. Such a teacher will not have activity corners for various visuals. Parents and members of the school committees should ensure that all pre-school classes are housed. This is one of the ways of making pre-school teaching effective.

It was the view of 27.8 percent of teachers who took part in the research that some pre-school children spoilt visual aids displayed in their classrooms. However, it is the duty of the teachers to train their children to be responsible citizens right from youth. Children should grow showing a lot of love and respect for teaching/learning materials in their classroom.

Finally, about nineteen percent of the teachers said that some of their colleagues could not use visual aids because they lacked the skills of making the same. However, to alleviate such a problem, teachers of that calibre can always seek assistance from primary school teachers or pupils in the neighbouring schools.

4.5 Types Of Visual Aids Used In Pre-Schools

The researcher received a long list of visual aids used by the 36 respondents. However, for convenience and easy analysis, the list was further grouped into four types of non-projectable visuals and ordered them as shown in Table 4.4.

The first group is of graphic and printed materials. This group is made up of work cards, card games, drawing books, colouring books and story books. It is also made up of simple pre-charts like time charts, weather charts and wall charts. It is under graphic and printed materials that we have pictorial graphs. Posters and drawings also fall under the same group. 88.9 percent of the respondents used the graphic and printed materials.

Table 4.4: Type Of Visual Aids Used By Pre-School Teachers

Types of Visual Aids	No. Agreeing		No. Disagreeing	
	Frequency	Percent	Frequency	Percent
Graphics and printed materials	32	88.9	3	8.3
Realia materials	31	86.1	4	11.1
Three dimensional materials	26	72.2	9	25.0
Still visuals	22	61.1	13	36.1

According to the table above 86 percent of the teachers, used realia as materials. The third best used, according to 72.2 percent of the teachers who participated in the research, three dimensional materials. About sixty percent of the teachers indicated they used still visuals.

4.6 Teaching Experience after Training by State of Visual Aids in Schools.

Data shown in tables 4.5 (a) and 4.5(b) depict the use of visual aids by pre-school teachers after training.

Table 4.5 (a): Experience After Training By State of Visual Aids In Schools.

Experience	Very fair	Good	Very good	Total
Less than 5 years	2 (5.6)	18 (50.0)	5 (13.9)	25 (69.4)
6 – 10 years	4 (11.1)	5 (13.9)	1 (2.8)	10 (27.8)
Over 20 years	_____	1 (2.8)	_____	1 (2.8)
Total	6 (16.7)	24 (66.7)	6 (16.7)	36 (100)

(Percentages are given in brackets)

The data reveal that 5.6 percent of the teachers appeared to be very fair in their use of visual aids five years after training. Fifty percent were "good" while 13.9 percent were "very good". This summed up to 69.4 percent just above average. Under normal circumstances teachers that had just completed their training should have displayed a higher trend of utilizing visual aids than that. The table shows that after five years a tremendous decline was experienced. The

percentage of those using visual aids dropped from 69.4 to 27.8. By the time teachers had taught for more than twenty years, the use of teaching aids almost dropped down to nil.

Table 4.5 (b): Experience after Training By State of Visual Aids In Schools

Experience	Very fair	Good	Very good
Less than 5 years	2(33.3)	18(75.0)	5(83.3)
6 – 10 years	4(66.7)	5(20.8)	1(16.7)
Over 20 years		1(4.2)	
Total	6(100)	24(100)	6(100)

Table IV.5(b) gives yet another picture of the situation. It paints “Very fair”, “good” and “very good” as separate blocks. The table gives a percentage of 33.3 for Very fair during the first five years. The percentage then improved to 66.7. This was quite encouraging. “good” which was 75.0 percent during the first five years moved down to 20.8 percent and eventually to 4.2 percent. This showed a serious plummeting movement.

During the first five years of experience, the table indicates that “very good” had 83.3 percent of teachers using visual aids. After that period, the percentage moved to 16.7.

Both tables indicate that from training teachers use of visual aids was slightly above average. However, after five years they began to put aside teaching aids. Unfortunately, twenty years after training saw almost nil use of the materials.

In conclusion, it is evident, judging from tables 4.5 (a) and 4.5 (b) that the use of visual aids by teachers declined with their experience. The more experienced they were, the fewer visual aids they used. Under normal circumstances, experience and high standards of professionalism should move

hand-in-hand. However, the moment the two move in opposite directions there must be something wrong somewhere.

4.7 Type Of Training by State of Visual Aids In Schools

Table 4.6 displays the type of training the 36 respondents had undergone. These were DICECE and Montessori. It further compares the state of visual aids as "very fair", "good" and "very good" by the type of training offered to the teachers.

About 17 percent of the teachers were graded "very fair" in the use of visual aids with the same percentage as "very good". A total of 63.9 percent of the teachers were graded good. The spread was, therefore, a good one as it could form a normal curve. However, it should have been even better if it had more people appearing under "good" and "very good".

Montessori on the other hand is not well-painted by the Table. This might have been the case because there was only one Montessori trained teacher against 35 DICECE teachers. Though one, the teacher's use of visual aids was good. This means that the standard of using teaching materials by the Montessori teacher was good. This was better than DICECE teachers that had spread down to "very fair" with a percentage of 16.7.

Maybe in future more teachers should be encouraged to go in for Montessori training especially from up country. By so doing better comparison would be made between the two groups of teachers. Besides, it is also important to encourage up country teachers to go for Kindergarten Heads Association (KHA) course.

Table 4.6: Type of Training Versus State of Visual Aids in Schools

Type of training	Very fair	Good	Very good	Total
DICECE	6 (16.7%)	23 (63.9%)	6 (16.7%)	35 (97.2%)
Montessori		1 (2.8)		1 (2.8%)
Total	6 (16.7%)	24 (66.7%)	6 (16.7%)	36 (100.0%)

It was unfortunate to learn that the KHA teachers did not exist in that corner of the country. In conclusion, it is not possible to effectively compare teachers of various types of training and their use of visual aids. This is true because almost all teachers up-country are exclusively DICECE trained.

4.8 Highest Academic Qualification and Use of Visual Aids in Schools

Judging from Table 4.7(a) appears that teachers with KCPE certificates were slightly better in the use of visual aids than those with CPE. This is true because KCPE teachers graded as “good” were 16.7 percent and “very good” 2.8 percent whereas those with CPE were only “very fair” (5.6 percent) and “good” (13.9 percent). This might have been true because of one year difference in their top classes.

Kenya Junior Secondary Examination (KJSE) teachers were found at the two extreme ends of the scale. It is not possible to state what might have caused that big difference. But it could be either experience or type of training the two received. From the findings, experience impacted negatively on the use of visual aids. At the same time tutors or teacher trainers should redouble their efforts in producing determined and devoted pre-school teachers.

The same table shows that more than half of the teachers who participated in the research were form four leavers. This constituted 55.5 percent of the entire research population. Out of the same percentage 36.1 percent of the teachers

research population. Out of the same percentage 36.1 percent of the teachers were "good" in the use of visual aids while 11.1 percent were very good. It means that 47.2 percent of the KCSE/KCE teachers' use of teaching materials revolved around "good" and "very good".

Table 4.7 (a): Highest Academic Qualification by State Of Visual Aids in Schools

Highest academic qualification	Very fair	Good	Very good	Total
CPE	2 (5.6)	5 (13.9)		7 (19.4)
KCPE		6 (16.7)	1 (2.8)	7 (19.4)
KJSE	1 (2.8)		1 (2.8)	2 (5.6)
KCSE	3 (8.3)	10 (27.8)	4 (11.1)	17 (47.2)
KCE		3 (8.3)		3 (8.3)
TOTAL	6 (16.7)	24 (66.7)	6 (16.7)	36 (100.0)

(Percentages are given in brackets)

Table 4.7 (b): Highest Academic Qualification By State Of Visual Aids In Schools

Highest academic qualification	Very fair	Good	Very good
CPE	2 (33.3)	5(20.8)	
KCPE		6(25.0)	1(16.7)
KJSE	1(16.7)		1(16.7)
KCSE	3(50.0)	10(41.7)	4(66.7)
KCE		3(12.5)	
Total	6(100.0)	24(100.0)	6(100.0)

(Percentages are given in brackets)

Table 4.7(b) shows that to some extent one's academic qualification controlled positively one's use of visual aids. This, therefore, provided evidence that the higher the academic achievement of a teacher the better the use of visual aids.

4.9 Use of Visual Aids in Schools By Age Of Teachers

Comparing ages of the teachers with their use of visual aids, there was a lot to be learned. Table 4.8(a) and 4.8(b) reveal that respondents of ages 21-25 worked so hard in terms of using visual aids. The use was between "good" and "very good" with 5.6 percent of the teachers being "good" and 2.8 percent "very good".

The next age group of 26-30 years was also good enough. About 8.0 percent of them were "very fair", 27.8 percent good and 11.1 percent very good. One negative signal observed was that they had spread out down to very fair. This characteristic was not available in the first age group.

The third age group of 31-35 years had shifted one step to the negative. It could no longer be found in "very good". Approximately, three percent of the teachers were "very fair" while 22.2 percent were "good".

At age 36-40 years, the concentration was still "very fair" and "good" while at 40 and above the usage of teaching materials was almost nil.

From tables 4.8(a) and 4.8(b), it is therefore clear that pre-school teachers remained positively active in the use of visual aids between ages of 21-30 years. The use of visuals then diminished as the teachers advanced in age. The question is why teachers lost interest in using visual aids immediately they were thirty years and above. Since this respect was not within the scope of this study, further research should be conducted to establish the reason.

Table 4.8(a): Use of Visual Aids In Schools By Age Of Teachers

Age in years	Very fair	Good	Very good	Total
21 – 25		2 (5.6)	1 (2.8)	3 (8.3)
26 – 30	3 (8.3)	10 (27.8)	4 (11.1)	17 (47.2)
31 – 35	1 (2.8)	8 (22.2)		9 (25.0)
36 – 40	2 (5.6)	3 (8.3)	1 (2.8)	6 (16.7)
Over 40		1 (2.8)		1 (2.8)
Total	6 (16.7)	24 (66.7)	6 (16.7)	36 (100.0)

(Percentages are given in brackets)

Table 4.8(b): Use of Visual Aids in Schools by Age of Teachers

Age in years	Very fair	Good	Very good
21 – 25		2(8.3)	1(16.7)
26 – 30	3(50.0)	10(41.7)	4(66.7)
31 – 35	1(16.7)	8(33.3)	
36 – 40	2(33.3)	3(12.5)	1(16.7)
Over 40		1(4.2)	
Total	6(100.0)	24(100.0)	6(100.0)

(Percentages are given in brackets)

4.10 Number Of Schools Taught In By State Of Visual Aids In Schools

According to Table 4.9(a) the use of visual aids in the first school was very impressive. The percentage of teachers whose use of teaching materials was “good” was 25.7 while “very good” was 8.6. None of the teachers was graded as “very fair”. Judging from the two percentages, most of the work was found within the “good” column. This means that at this stage the teachers showed a lot of interest and professionalism in their work.

In the second and third schools, the use of visuals was spread out through “very fair”, “good” and “very good”. However, there were bigger percentages at “good” than the other two areas as can be seen from the table. Though the total

than the other two areas as can be seen from the table. Though the total percentages for the two schools were the same (28.6 percent), teachers at their third school performed better than those at the second school in the "good" column. This therefore means that better use of visual aids was observed in the third school than in the second one.

Work in the fourth and fifth schools had shifted to "good" and "very fair" with no "very good". It was "very fair" and "good" in the fourth school and only "good" in the fifth school.

Table 4.9(a): Number Of Schools Taught In By State Of Visual Aids In Schools

No. of schools	Very fair	Good	Very good	Total
One school		9 (25.7)	3 (8.6)	12 (34.3)
Two schools	4 (11.4)	5 (14.3)	1 (2.9)	10 (28.6)
Three schools	1 (2.9)	7 (20.0)	2 (5.7)	10 (28.6)
Four schools	1 (2.9)	1 (2.9)		2 (5.7)
Five schools		1 (2.9)		1 (2.9)
Total	6 (17.1)	23 (65.7)	6 (17.1)	35 (100.0)

Number of missing observations: 1

(Percentages are given in brackets)

Table 4.9 (b): Number of Schools Taught In By State Of Visual Aids in Schools

No. of schools	Very fair	Good	Very good
One school		9(39.1)	3(50.0)
Two schools	4(66.7)	5(21.7)	1(16.7)
Three schools	1(16.7)	7(30.4)	2(33.3)
Four schools	1(16.7)	1(4.3)	
Five schools		1(4.3)	
Total	16(100.0)	23(100.0)	6(100.0)

Number of missing observation 1

(Percentages are given in brackets)

Table 4.9(b) has displayed the same information as above. Though each column of "very fair", "good" and "very good" has been treated separately, the percentages seem to have depreciated from the first school to the last one.

In conclusion, the researcher noted from table 4.9(b) with a lot of disappointment that, though teachers went to their first posting schools with a lot of vigour, they lost interest as they moved from one school to another. It was also observed that teaching in many schools should have bettered the teacher's work instead of worsening it.

4.11 Use of Visual Aids in Urban And Rural Pre-Schools

In Table 4.10(a), it can be seen that the use of visual aids in both urban and rural schools displayed almost no difference at all. Looking at the column very fair, 11.1 percent of teachers used visual aids compared to 5.6 percent of the rural teachers. This is quite a conspicuous difference. However in the "good" column, the difference was very minimal. And if anything, the percentages in urban pre-schools should have been much higher than those in rural. This is true because the economic status of people in urban is always higher and therefore more visuals should have been available there. Surprisingly, the reverse was the case. The percentage of teachers in urban pre-schools that used visuals was 30.6 percent while that of the rural teachers was 36.1 percent.

In the "very good" column the percentages were the same for both rural and urban pre-schools. Table 4.10(b) in a different way. Given this scenario, there are a few underlying factors that might have contributed to minimal percentage difference in urban and rural pre-schools.

And so may be since urban schools were made up of both public and private schools, the strength of the private schools might have been neutralized by their

counterparts that are comparatively poorer. Besides that, private schools would always like to please parents. May be they did this by involving the children in serious Reading, Mathematics and English. This might have interfered with the use of visual aids in the urban schools.

Rural schools in which most parents are very poor may be charged low fees to cope with the situation. Some of the poor parents are regular fees defaulters. And so besides paying teachers' salaries, the little money couldn't do any other thing.

Possibly this could have been the reasons why there was minimal difference between the use of visual aids by urban and rural school teachers.

Table 4.10 (a): Visual Aids In Urban And Rural Pre-Schools

Location of schools	Very fair	Good	Very good	Total
Urban	4 (11.1)	11 (30.6)	3 (8.3)	18 (50.0)
Rural	2 (5.6)	13 (36.1)	3 (8.3)	18 (50.0)
Total	6 (16.7)	24 (66.7)	6 (16.7)	36 (100.0)

(Percentages are given in brackets)

Table 4.10 (b): Visual Aids In Urban And Rural Pre-Schools

Location of schools	Very fair	Good	Very good
Urban	4(66.7)	11(45.8)	3(50.0)
Rural	2(33.3)	13(54.2)	3(50.0)
Total	6(100.0)	24(100.0)	6(100.0)

(Percentages are given in brackets)

4.12 Use of Visual Aids in Public And Private Pre-Schools

Table 4.11(a) below puts it very clearly that comparing pre-school teachers in public schools and those in private schools in the use of visual aids, both of them

were the same in the column “very fair”. In each case 8.3 percent of the teachers’ visual aids were graded “very fair. The next column which is “good” public school teachers appeared to perform better than those of private schools. About 36 percent of teachers in public schools used visual aids while 31 percent in private schools had used the materials.

Under “very good”, teachers in the private schools made up the difference by 11.1 percent of them using the teaching materials while only 5.6 percent of the public school teachers did so. Table 4.11(b) below has displayed the same message. In summary, there was no difference between the use of visual aids in public schools and that in private schools.

Once again, it wouldn’t be very easy to explain from the table why the use of visual aids in private and public schools was the same. However may be public schools couldn’t afford to buy raw materials for making visual aids because of a number of reasons. Fees paid were very low and most parents defaulted on payment. Private schools, on the other hand, had to please parents if the school enrolment had to remain high.

Table 4.11(a): Visual Aids in Public and Private Pre-Schools

Location of school	Very fair	Good	Very good	Total
Public	3 (8.3)	13 (36.1)	2 (5.6)	18 (50.0)
Private	3 (8.3)	11 (30.6)	4 (11.1)	18 (50.0)
Total	6 (16.7)	24 (66.7)	6 (16.7)	36 (100.0)

(Percentages are given in brackets)

Table 4.11(b): Visual Aids In Public And Private Pre-Schools

Location of school	Very fair	Good	Very good
Public	3(50.0)	13(54.2)	2(33.3)
Private	3(50.0)	11(45.8)	4(66.7)
Total	6(100.0)	24(100.0)	6(100.0)

(Percentages are given in brackets)

This was done through drilling the children if they had to learn to read and write, calculate some arithmetic and speak some English at the end of the day. And so they rarely used visual aids. This was very rampant in most private schools I visited. Response to the demand of the parents was the driving force

4.13 Research Hypotheses

From Pearson's Correlation Coefficient table developed from SPSS (Extract Table 4 .12) research hypotheses Ho1, Ho2, Ho4, Ho5 and Ho6 were worked out at a significant level of 0.05. The researcher wanted to find out how much the following factors influenced the use of visual aids in pre-school teaching. These were urban and rural schools, teaching experience, academic qualification and age of the teacher. He strongly believed that Pearson's Correlation Coefficient could clearly bring out how the said areas correlated.

4.13.1. Hypothesis 1

Hypothesis 1 states, "There was a significant relationship in the level of using visual aids between pre-school teachers in the urban and those in the rural pre-schools".

A Pearson Correlation Coefficient test was carried out and the results showed that there was no significant relationship between the level of using visual aids for pre-school teachers in urban and those in rural pre-schools.

That is to say $P = 0.577 > 0.05$, $r = 0.0962$

Hence the null hypothesis was accepted.

The positive value of r indicates a positive relationship between the variables.

Tables 4.10(a) and 4.10(b) also support the same idea. They show that there was no significant relationship between the use of visual aids by the two groups of teachers, from rural and urban setting.

4.13.2. Hypothesis 2

Hypothesis 2 states, (There is a significant relationship between pre-school teachers' level of using visual aids and their teaching experience". In the other words it was believed that the more experience a teacher had the more visual aids he/she used.

The results of correlation co-efficient test carried out showed that there was no significant relationship between the teachers' level of using visual aids and their teaching experiences, that is:

$$P = 0.264 > 0.05 \text{ and that } r = -0.1910$$

Correlation co-efficient is negative.

Consequently, the null hypothesis was accepted. Negative r shows an inverse relationship between the two variables. Hence as the experience increased, the use of visual aids decreased.

Table 4.12: Pearson Correlation Coefficient

Variables	Use of visual aids
1. Urban/Rural teachers	$r = 0.0962$ $p = 0.577$ sample = 36
2. Teachers' Highest Academic Qualification	$r = 0.1337$ $p = 0.437$ sample = 36
3. Teachers Experience After Training	$r = 0.1910$ $p = 0.264$ sample = 36
4. Public and Private School Teachers	$r = 0.0962$ $p = 0.577$ sample = 36
5. Teachers' Age	$r = -0.2018$ $p = 0.238$ sample = 36

4.13.4 Hypothesis 4

Hypothesis 4 stated, "There is a significant relationship in the level of using visual aids and the pre-school teachers' academic qualification. Pearson Correlation Coefficient test that was carried out revealed that there was no significant relationship in the level of using visual aids and the pre-school teachers' academic qualification.

That is to say $P = 0.437 > 0.05$ and $r = 0.1337$. The null hypothesis was therefore accepted. The positive value of r indicated that there was a minimal positive relationship between the two variables but not a significant one.

4.13.5. Hypothesis 5

Hypothesis 5 predicted , "There was a significant difference in the level of using visual aids between teachers in private schools and those in public schools".

A Pearson correlation coefficient test carried out at $\alpha = 0.05$ showed that there was no significant relationship between teachers' level of using visual aids for teachers in private schools and those in public schools.

Hence $P = 0.0577 > 0.05$ and $r = 0.0962$

Therefore the null hypothesis was accepted.

The positive r indicates a positive relationship between the two variables. The small value of r shows a very weak relationship.

4.13.6. Hypothesis 6

Hypothesis 6 stated, "There is a significant relationship between the level of using visual aids and the teachers' age".

However, Pearson Correlation Coefficient test was carried out at $\alpha = 0.05$ and results showed that there was no significant relationship between the level of using visual aids and the teachers' age.

This is where $P = 0.238 > 0.05$, and $r = -0.2018$, Hence the null hypothesis was accepted.

The negative r indicates that there was an inverse relationship between the level of using visual aids and the teachers' age. This meant that as age increased, the level of using visual aids decreased.

4.13.7. Hypothesis 3

Table 4.13 on Chi-square test is used for hypothesis 3. Chi-square (χ^2) is a statistical technique which attempts to establish relationship between two variables both of which are categorical in nature. Mugenda and Mugenda (1999).

The hypothesis stated, "There was a significant relationship in the teachers' level of using visual aids and their professional qualification".

A Chi-square test was carried out at $\alpha = 0.05$ and the results showed that there was a high significant relationship between level of using visual aids and the teacher's professional qualifications. The researcher resorted into using Chi-square since Pearson Correlation Coefficient couldn't be used in this case.

Table 4.13: Chi Square Test On Professional Qualification

Type of training	Category	Cases observed	Expected	Residual
DICECE	1	35	18	17
Montessori	3	01	18	17
Total		36		

Chi square = 32.1111
 Degree of Freedom (DF) = 1
 Significance = .0000

$X^2_{(1)} = 32.111$ and $P < 0.05$

Consequently, the hypothesis was accepted. Hence the level of using visual aids depended highly on the type of professional qualification one had. This could be either DICECE or Montessori.

4.14. Findings Made During Pre-School Classroom Observation

Immediately after all the 36 respondents had completed the Pre-school Teachers Questionnaire. (Appendix A), the researcher went out to six pre-schools to see for himself the state and the use of visual aids. During the researcher's visit to the schools, he came out with the followings observation:

4.14.1. State of Visual Aids

The teaching materials available were, tidy and properly labelled (Table4.14). These were observed in 83.3 percent of the schools. This was quite encouraging. However, the fact that the materials were tidy caused a lot of worries to the researcher. It was like the children had not been given time to touch them and use them. Otherwise, they would have just been clear and labelled but not tidy.

A good majority of the visual aids available were durable. This was very encouraging. Durable materials save time and money. All schools except one were found in this category.

The visuals were appropriate for children's use. In other words they had been made with pre-school children in mind. Besides, they were also safe for

children's use. Fifty percent of the schools displayed the same state. At least half of the six schools had a few visual aids made.

Visual aids in pre-schools are supposed to be arranged according to activity areas. This was seen in fifty percent of the schools.

Table 4.14: Findings Made During Pre-School Classroom Observation

No.	State of visual aids	No. of schools with positive findings.	%	No. of schools with negative findings	%
1.	Clear, tidy and labeled	5	83.3	1	16.7
2.	Durable	5	83.3	1	16.7
3.	Appropriate	3	50.0	3	50.0
4.	Safe	3	50.0	3	50.0
5.	Well arranged	3	50.0	3	50.0
6.	Door and windows lockable	3	50.0	3	50.0
7.	Frequently used by children	2	33.3	4	66.7
8.	Regularly changed	2	33.3	4	66.7
9.	Children's work displayed	2	33.3	4	66.7
10.	Charts displayed	2	33.3	4	66.7
11.	Storage facilities available	2	33.3	4	66.7
12.	Sufficient visual aids	—	—	6	100.0

For teaching materials to be safe, the store in which they are kept must have lockable doors and windows. Only 50.0 percent of the schools observed had

lockable windows and doors. This meant that a good majority of the pre-schools were at risk of losing materials already developed.

Only 33.3 percent of the visual aids were frequently used by children. Visuals must be frequently touched and used by the children besides the teacher. This is the only way children would understand them better. Otherwise, only 33.3 percent of the schools allowed their children to touch and look at teaching materials frequently. When asked why they kept visuals away from the children, the teachers claimed the children were destructive.

Learning aids mounted on the classroom walls should be changed regularly to alleviate monotony in the children. When children watch the same charts on the wall throughout the month and throughout the term, they get bored. It is therefore important to change the materials regularly according to themes. Only 33.3 of the schools did that.

Children's work should be displayed for some time. This should be true more so with art work. By so doing children will learn their strengths and weaknesses from colleagues. This had happened in 33.3 percent of the schools only.

From the learning aids children learn quite a lot. Teachers should therefore display charts already used. About 33 percent of the schools were doing it.

Storage facilities, if available, would motivate teachers to make more visual aids. They would be sure of the safety of any materials made. Only 33.3 percent of the schools had storage facilities for their teaching materials. Finally, it was sad to learn that none of the schools had sufficient visual aids.

The state of visual aids in pre-schools was not encouraging at all. Most teachers used them sparingly.

4.14.2 Type of Visual Aids Used

From Table 4.15(a) and 4.15(b), it is evident that the six schools visited used three out of the four types of visual aids. Graphic and printed visuals were used in all the four schools. Next in rank was still visuals which were used by 66.7 percent of the schools.

Table 4.15(a): Use Of Visual Aids During The Live Lessons Observed

Type of visual aids	Urban zone	Asego zone	Kabunde zone
1. Graphic and printed materials	Available	Available	Available
2. Still visuals	Available	Available	_____
3. Three dimensional materials	Available	_____	_____
4. Realia materials	_____	_____	_____

Table 4.15(b): Use Of Visual Aids During The Live Lessons Observed

Type of Visual Aids Used	No. of schools that used them	%	No. of schools that did not use them	%
1. Graphic and printed materials	6	100.0	_____	_____
2. Still visuals	4	66.7	2	33.3
3. Three dimensional materials	2	33.3	4	66.7
4. Realia materials	_____	_____	6	100.0

Three dimensional materials were ranked third and were used by 33.3 percent of the schools. Unfortunately, none of the schools used realia. These materials could be plants and animals. They are found within the school environment. Children should always be encouraged to pick them up and take them to their respective schools. They make learning real and interesting. The researcher

took time to encourage teachers to use a lot of local materials from the environment as they form the core of teaching materials at ECD centres.

Table 4.16: Impact of Well Used Teaching Materials

Children From	Activities Carried Out in Groups
1. Urban Zone	Picture discussion, drawing & painting colour discrimination, modeling.
2. Asego zone	Drawing, painting and modeling
3. Kabunde Zone	Modeling and drawing.

Children from urban zone that used graphic, still and three dimensional materials were able to carry out the following activities with ease: modeling, drawing, painting, picture discussion and colour discrimination. While children from Kabunde where only one type of visual aid was used had a lot of problems in carrying out the activities.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

The following findings emerged from the study:

As far as the personal characteristics of the respondents were concerned, it became quite clear that the majority of the teachers were below the age of thirty years. It therefore meant that quite a good fraction of pre-school teachers was made up of very young people who completed their schooling not long time ago. It was also clear that more than half of the teachers had attained form four education. The rest of the teachers had done either class seven or eight. Unfortunately, neither of them had form six, diploma nor degree certificate in Early Childhood Development (ECD). It was therefore noted that most pre-school teachers were still poorly educated and needed more opportunities for further studies in either tertiary colleges or universities that offer courses in Early Childhood Development.

The majority of the pre-school teachers that participated in the research had taught for a period between 0-5 years after training. However, about twenty percent had been in the job for 6-20 years. The training they had all undergone was either of the Ministry of Education curriculum, popularly known as DICECE or a few Montessori. The two types of training use different philosophies but have the same target. From the explanations given, it is evident that most of respondents had not taught for a very long time. Their period of service ranged between 0-20 years.

As far as the number of schools in which the teachers had taught was concerned, it was found that about ninety percent of the teachers had taught in 1-3 schools. However, the remaining ten percent had taught in as many as five

schools. This gave them adequate room to compare and contrast the nature of teaching in various schools. This should have given them an opportunity to acquire more skills in making and using plenty of visual aids. It was also learnt that the number of hours spent at school by teachers varied from school to school.

Over sixty percent of the respondents worked half day while the rest did full day work. This, to the researcher, might have been one cause of poor usage of visual aids in a majority of pre-schools. This is so because many organized pre-school teachers teach in the morning and spend afternoons developing teaching materials. But in a case where only a handful of teachers do full day work, time for making visual aids will be lacking and therefore most pre-school teachers will have very few visuals to use. This contradicts the literature review which revealed that there is every need for a teacher to reinforce her/his oral instructions by using visual materials. It was further learnt that besides using teaching materials teachers must ensure that for effective learning, a variety of the materials must be used.

While it was true that visual aids were received at pre-schools from various sources, children played a key role in availing the same. More than ninety percent of the materials were brought from home, picked from markets or collected from the school environment by the children. Of course the children could not do this without their teachers' instructions, or parents/care givers' assistance. Unfortunately, it was sad to learn that pre-school management, for example headteachers, school committees and school managers did the least in providing visual aids to schools.

Non-projected visual aids used by pre-school teachers fall in four categories. These are graphic and printed materials, realia, three dimensional materials and

still visuals. The research revealed that 88.9 percent of the teachers used graphic and printed materials, 86.1 used realia, 72.2 used three dimensional materials while 61.1 used still visuals. From the percentages cited above, it is clear that two types of visual aids were more popular among the teachers than the others. The popular ones were graphic and printed materials and realia.

It is generally believed that the more experience one acquires, the more professional one becomes. However, this research revealed the reverse. It was learnt that the use of visual aids declined with teacher's experience. The more experienced they were, the least the number of visual aids they used. This might have been due to poor terms and conditions of employment in terms of very little and irregular salary, no benefits like house allowance, medical allowance and responsibility allowance.

The research carried out revealed that over ninety-seven percent of teachers who participated in the exercise were DICECE trained. However, about three percent had undergone Montessori training. The use of visual aids by both groups of teachers was majorly "good" with a percentage of about 67 involved. About seventeen percent of the teachers were very good. And so generally it would be safe to say that the government (DICECE) had prepared the respondents well for the use of visual aids.

It was noted that the pre-school teachers who were involved in the research did not have very high academic qualification. Over 56.0 percent of the teachers were form four leavers while the rest were either CPE, KCPE or KJSE certificate holders. It was observed that to a minimum extent one's academic qualification controlled one's use of visual aids. The positive value of indicated that there was a negligible positive relationship between the use of visual aids and one's

academic qualification. Though the relationship appeared low, one's academic qualification had some bearing on one's use of visual aids.

The researcher also took a critical look at the use of visual aids and the respondents' ages. Generally, it was revealed that pre-school teachers remained positively active in the use of visual aids between the ages of 21 – 30 years. However, as their ages advanced beyond thirty years, the use of visuals gradually diminished. At age forty years, the use of teaching materials become very scanty. And so it appeared as if the older the teacher was, the less materials she used.

There are so many possible reasons why teachers used fewer visual aids as they advanced in age. To mention just a few I would say that:

- As teachers grow older they begin to feel that with all the experience acquired about teaching pre-school children, they could use minimal teaching aids but still deliver. This could be based on the English saying that states, "Experience is the best teacher".
- Old age makes teachers feel that using plenty of visual aids is a big bother because it entails spending a lot of time collecting and or making them. Some teachers believed that engaging deeply in material development would deprive them of time for performing useful duties.
- With retirement age getting closer and closer teachers, like any other workers, feel that they should begin preparing for the transition well in advance. And so engaging in doing activities e.g. making materials that are time consuming was not considered necessary.

There was evidence that teachers worked in their first and second posting schools with a lot of vigour using visual aids to the maximum. However, as they

moved to more and more schools, they lost interest in using the materials. And so, while it is believed that teaching in many schools should have bettered the teacher's work in terms of using visual aids instead, the converse was the case. Hence the more schools a teacher had taught in, the fewer visual aids, she used. This could be explained in a number of ways. As teachers frequently transfer from one school to another, they acquire more and more experience in their work, which can make them teach with fewer visual aids. Another possible reason why pre-school teachers lose interest in using teaching materials as they move from one school to another is the stressful situation that a good number of them suffer. As has been reported by most respondents, newly trained pre-school teachers start off on a very good note. Nevertheless, with time indoctrination from already frustrated colleagues impact very negatively on their career.

Generally, it is believed that managers of private pre-schools should be very concerned about the standards of teaching in their schools. This is important as it would attract higher enrolment and eventually better income. Public schools on the other hand have been known for being under resourced. However, despite economic difference between private and public schools, there was no significant difference noted in the use of visual aids between the two types of schools.

Once again, a number of reasons can be advanced to explain possible reasons why there was no significant difference in the provision of visual aids in private and public schools. One reason is that private schools are always in a hurry to make children read and carry out some simple arithmetic through the use of all crude methods. This is meant to impress parents and attract more

children and therefore more money. Here the use of visual aids appear cumbersome so long as any short cut can be followed. At the same time, most private schools look at the use of visual aids as time consuming. They would rather sacrifice their profession and get to the point straight away. Whether the children are able to retain the points taught for future use or not is non of their business. Third, it is worth noting that managers of private schools are typically business, people who have a lot of love for money. And so parting with some cents to buy items for material development is a big problem to a good majority of them.

Unlike private ECD Centres, their counterparts, public schools, are literally very poor. Parents are never prompt and or regular in paying fees for their children. For such reason the economy of such institutions are always in the red. Besides, the factors that hindered the use of visual aids cited above by the respondent predominantly affected public schools.

The above cited facts, therefore, may begin to explain why private and public pre-schools were not different in terms of provision of visual aids. As the researcher visited the six pre-schools, his area of interest was to find out the state of visual aids available at schools and the type of visual aids used by teachers. It was discovered that 50.0-83.3 percent of the schools visited had their teaching materials in the following state: clear tidy and labeled, durable, appropriate, safe, well-arranged, with lockable doors, and windows and stores. About thirty-three percent of the schools had their visual aids in the following state; frequently used by the children, regularly changed, charts displayed and storage facilities available. Unfortunately, none of the six schools visited had sufficient visual aids, i.e. all the four types like graphic, still, three dimensional and realia.

Looking at the type of visual aids used, it was observed that over 67.0 percent of the schools used both graphic and printed materials and still materials. Some 33.3 percent used three dimensional materials. However, it was unfortunate to note that no school used realia.

5.2. Conclusions

From the research findings it was noted that there were factors that contributed to better use of visual aids. To make teaching more effective such factors should be encouraged and sustained.

It was noted that there were personal variables that influenced teachers' use of visual aids. Younger teachers were found to be much more concerned about the use of visual aids than the elderly ones. Teachers with higher academic achievement tended to use more visual aids than their colleagues with little education. Very few pre-school teachers did both morning and afternoon session at school. Children were the key source of visual aids while parents and the members of the community of the community played the least role in providing the materials. The main factors that hindered the use of visual aids were the lack of: storage facilities, finances, lockable windows and doors, time for material development, commitment of education field staff, co-operation by members of the community and security of the few materials available.

It was noted that teachers in their first and second schools of posting worked with a lot of vigour in the use of visual aids. It was discovered that between 50.0 and 83.3 percent of schools had visuals in the following state: clear tidy and labeled, durable, appropriate, safe, well arranged and doors and windows of stores lockable. Finally over 67.0 percent of the schools used both graphic and printed materials and still materials.

The use of visual aids by teachers as they teach, especially pre-school teachers, has been a major concern for the Ministry of Education. This is true because it is through the use of abundant and varied visual aids that the teachers can be effective in their work. If factors that hinder the use of visual aids can be alleviated, the teachers will do a better job. However, if the factors persist then the work output will continue to decline.

In the present study, lack of adequate and proper storage facilities for visual aids was cited by the respondents as one of the major hindrances to the use of materials. While some teachers developed materials, collected them from the environment and even encouraged children to bring them to school at the end of the day, teachers had no proper place for storage. And so the materials got lost, one by one. Some ended up in wrong hands, others were eaten by ants and rats and after a few days the teacher was back to square one. He/she had to start off again and this was very discouraging.

Another hindrance cited by over eighty percent of respondents was lack of finances in schools. Some of the visuals like master cards, flash cards, cut-outs are made from manila cards that must be bought. Felt pens and ink used in writing on the manila must as well be bought. And so if most pre-school managers are rarely ready to release funds to go towards material development, it leaves pre-school teachers with no alternative but to use minimal visuals within their reach. Besides the meagre salary that is paid to the pre-school teacher, there is nothing else in terms of allowances. This means that not even the teachers are able to squeeze any funds to be used in buying teaching materials.

Pre-school teachers were to a large measure disadvantaged in that most of their classroom windows and doors were unblockable. Seventy-five percent of the respondents cited this as a hindrance towards using visual aids. Since most of

the classrooms are unlockable, the teachers are unable to keep any visual aids in them or the materials would be taken away by intruders. This means that the teachers have to use just a few materials that they can carry to class everyday and then carry back home after classes. This at the end of the day defeats the idea of using abundant and varied visual aids as recommended by many writers. Because of lack of storage facilities within the classroom, teachers get discouraged from constant development of the materials. This has also greatly contributed to either non-use or minimal use of visual materials in pre-schools.

Another factor mentioned by over seventy five percent of the respondents as a hindrance towards using visual aids was the lack of adequate time for material development. About sixty percent of the respondents worked half day. This meant that the remaining part of the day was used for doing other things. This could be engaging in petty businesses to top up the income as most of the teachers are either underpaid or earn irregular salary. Teachers that get time to go back to school in the afternoons spend the majority of that time developing materials. However, if it is all half day then there would be very little or no time for visual aids production. And so if only teachers could be paid well, then they would see no reason for indulging in other businesses. Going back to school in the afternoon would be part of the conditions for their employment. This would, therefore, mean spending most of the afternoon hours by all pre-school teachers developing materials. Teaching in pre-schools will then become very effective.

The findings of the research have revealed that there was a gradual decline in the use of visual aids just a few years after teachers had come from training colleges or courses. The cause of this could have been failure by field education staff to organize regular materials development workshops and refresher courses for teachers. This means that there should be short courses and workshops

regularly organized on material development. By so doing, the teachers would be kept abreast of the latest skills and techniques of making and using visual aids.

From the research findings, it is like most of the existing pre-school classrooms could be very easily accessed by intruders. This might have been true because the rooms did not have lockable windows and doors. Once the intruders were in the classrooms, they carried away all the visual aids they could lay their hands on. This is yet another very big set back to many pre-school teachers. Losing the materials already made to intruders is a very discouraging factor which has contributed enormously to minimal or no use of visual aids by pre-school teachers. Table 4.3 states this very clearly.

One of the major sources of visual aids as cited by the respondents are children together with their parents/community. However in some pre-schools another, hindrance to the use of visual aids was observed to be the lack of co-operation between teachers and members of the community. In the absence of a cordial relationship between the two groups, smooth inflow of visual aids from the community into schools would be discouraged. As much as possible, teachers must ensure they relate well with their respective communities if, the supply of materials must either be stepped up or remain constant. Parents who are the beneficiaries of effective teaching of their children must also ensure they relate well with their teachers. One way of doing this is by regularly supplying the school with visual aids whenever need arises. This should include the use of locally available materials.

Making/collecting of abundant and varied visual aids calls for a lot of devotion and determination by the teachers. The teachers must be ready to spend a lot of their time working on the teaching materials. However, over fifty-five percent of the respondents noted that lack of devotion/determination in some teachers was

another factor that contributed to minimal use of teaching resources in pre-schools. This could be because of poor terms and conditions of employment for ECD teachers. For example, little and irregular salary and also lack of allowance such as house and medical.

Some respondents acknowledged the presence of stores in a few schools. However, fifty percent of them stated that some of the stores lacked security. Anybody could get access into these stores and so whatever was kept inside could get lost any time. This was another contributory factor to using either no visual aids or very few of them.

All the skills, concepts and knowledge of materials development are supposed to be taught to pre-school teachers at training colleges or in in-service courses. Once this area is thoroughly handled at college, the teachers will apply the same for a long time after training. However, fifty percent of the respondents noted that there was lack of thoroughness at some teacher training colleges in the production of teaching materials. This has led to producing teachers who are half-baked in the area of material development. Such teachers in return prefer teaching without the materials and hence cannot be effective in their work.

A suitable pre-school classroom should be spacious enough to accommodate learners and provide room for free choice indoor activities. Unfortunately, it was learnt from fifty percent of the respondents that a good majority of pre-school classrooms had inadequate spaces. This made it almost impossible for the pre-school teacher to organize other learning activities within the classroom. It also hinders free movement of the teacher from one group of children to another for class remedial work. A situation of this kind compels a teacher to conduct outside the classroom activities that require a lot of space. However, in case of poor weather, such activities have to be put-off until a later date.

About twenty-eight percent of the respondents noted that some pre-school classes were conducted under trees. Using visual aids, especially charts and flash cards under a tree is a very difficult exercise. Quite often the teaching materials are exposed to harsh weather conditions that may not provide room for conducive learning environment. For example when the wind is blowing, it will toss charts or flash cards back and forth and hence interfere with the teaching of children a great deal. Teaching under trees which is quite a rampant scenario in the up- country pre-schools is a very serious hindrance to the use of visual aids. Parents of pre-school children and members of the community should take it upon themselves to provide physical facilities in all pre-schools to ease this problem.

Generally speaking, pre-school teachers have very many factors that hinder the use of visual aids. The same must be alleviated if the teachers are to be effective in their work.

Besides the contributing factors to the non-use of visual aids given by the respondents, the researcher also made the following deductions as he carried out the exercise:

- Some headteachers of primary schools to which ECD units were attached displayed very little interest in their nursery classes. Because of the same the heads did not bother to check as to whether the teachers were using adequate and proper visual aids or not. It is assumed that the little or no interest shown could be attributed to lack of training in early childhood teaching.
- A good majority of school inspectors also behaved like primary school heads. They too had very little interest in ECD classes. This could as well be due to lack of adequate knowledge in ECD. Since most headteachers

and some school inspectors were handicapped in ECD; they could not reinforce effective use of visual aids.

- Another factor that contributed to minimal or no use of visual aids was a lack of awareness in most parents and members of the community. This is true because a good majority of people who are important in the government today did not go through pre-school education. Such people do not know the importance of pre-school education.
- According to the researcher, assumption by some teachers that they could still teach effectively without visual aids, given their long experiences was yet another contributing factor.

5.3. Recommendations

1. Measures should be taken to see that constant and regular seminars and workshops on the material development are organized for pre-school teachers. This will keep reminding the teachers of the techniques of making and also importance of using the materials. It is necessary because the findings of the research revealed that a few years after training, pre-school teachers used fewer and fewer visual aids. The seminars and workshops should be organized by the education staff in the field. These should include education officers, school inspectors and DICECE staff.
2. It is necessary to conduct regular awareness meetings for parents and members of the community to remind them of their role of providing physical facilities to pre-schools. The research findings revealed that a good majority of pre-schools lacked important physical facilities like classrooms, toilets, store, visual aids and seats. Constant community mobilization would keep the concerned always informed of their duties.

3. A good majority of pre-school teachers worked half day i.e. morning session only. This deprived them of time for material development – a duty that could be conveniently performed by the teachers during afternoon hours. It is therefore, the researcher's recommendation that it becomes mandatory for all pre-school teachers to spend morning hours teaching and afternoon session developing materials.
4. Over ninety percent of the teachers that were engaged in the research were DICECE trained. This is a clear evidence that the majority of the teachers up country are trained by the Ministry of Education. However, training bodies like Montessori and Kindergarten Heads Association (KHA) produce other brands of teachers that should also be employed to complement the currently existing lot. From there it would be easier to find out which group uses more visual aids than others.
5. Most of the respondents were of Form Four certificate and below. It is therefore very important to encourage pre-school teachers to take up diploma and degree courses in Early Childhood development. This will eventually offer them the opportunity to provide quality teaching and also instill confidence in the worker.
6. It was noted that teachers lost interest in using visual aids often after they were thirty years of age. However, if terms and conditions of employment were improved, pre-school teachers would likely continue doing a better job for a longer time. For instance, if they were given housing, medical and responsibility allowances with good and consistent pay, they would tirelessly carry out their duties.

5.4. Suggestions For Further Research

Below are some suggestions for studies that could be conducted to get a deeper insight into the factors affecting the use of visual aids in pre-schools.

1. A replication of this study could be conducted in other districts to compare findings and try to improve the instrument further for future research.
2. Similar studies may be conducted to find out why there is a decline in using visual aids with age and experience.
3. A comparative study needs to be conducted to find out why there was no difference in the use of visual aids between rural and urban schools.
4. Another comparative study could be conducted to find out why there was no significant difference in the use of visual aids between public and private schools.
5. It would be necessary to conduct this study using other methods of data collection in order to get a deeper perspective of the factors that affect the use of visual aids in pre-schools.

5.5 What the Researcher has Learnt from the Research

For the period of time the researcher went about collecting data and interacting with the pre-school teachers, school heads and field education staff quite a lot was learnt. Below are just a few of them:-

1. That pre-school teachers are very hardy group of people and more especially those from up-country. They earn very little and earn it irregularly but a good majority have shown a lot of love for their job.

2. Headteachers and members of the community display very minimal regard for ECD teachers. They are quite often than not looked at as junior people that do not deserve much respect. This is irrespective of the good work they do.
3. Community members should be incharge of ECD centres in terms of providing physical facilities and paying of teachers. However, they don't seem to be taking that with any seriousness. A series of a awareness meeting have been conducted but there is very little improvement.
4. Most Quality Assurance Officers (Schools inspectors and schoolheads don't appear to understand ECD curriculum. Unfortunately they are not even struggling to.
5. Free Primary Education Program has caused more harm than good to the pre-school section, especially in the upcountry schools. Parents are now more unwilling to pay fees for their nursery school children than before.

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APPENDIX A

PRE-SCHOOL TEACHERS QUESTIONNAIRE

INSTRUCTION

Kindly give your honest response to the different items below. You do not need to write your name. The information will be handled confidentially.

The information obtained from this questionnaire will only be used by the researcher in identifying some of the problems that hinder the use of visual aids among pre-school teachers. The same will be used to suggest ways of helping pre-school teachers in Kenya.

PART I

Put a tick (✓) against the alternative that suits your situation.

- | | | | |
|----|---------------|---------------------------|--------------------------|
| 1. | My school is: | Public in an urban setup | <input type="checkbox"/> |
| | | Public in a rural setup | <input type="checkbox"/> |
| | | Private in an urban setup | <input type="checkbox"/> |
| | | Private in a rural setup | <input type="checkbox"/> |

Age in years:

- (a) Under 20
 (b) 21 – 25
 (c) 26 – 30
 (d) 31 – 35
 (e) 35 – 40
 (f) Over 40

3. Training:

DICECE

KHA

Montessori

Others Specify

4. Your highest academic qualification:

KPE

CPE

KCPE

KJSE

EACE

KCSE

KCE

EAACE

KACE

Degree

1. Teaching experience:

(a) **Before training:**

Less than 5 years

6 – 10 years

11 – 15 years

16 – 20 years

Over 20 years

(b) **After training:**

Less than 5 years

6 – 10 years

11 – 15 years

16 – 20 years

Over 20 years

2. Number of schools taught:

3. School hours:

Morning

Morning and afternoon

PART 2

Put a tick (✓) where necessary or write an answer in the space provided

1. Do you like the idea of using visual aids as you teach?

YES

NO

If YES, what do you like about it?

2. Is there anything that you dislike about using visual aids?

YES

NO

If YES, please indicate what bothers you in using them.

3. As a pre-school teacher, are you familiar with the possible places from where you can obtain visual materials that can be used for teaching?

YES

NO

Please list down all the possible places that you can obtain them from:

1. -----
2. -----
3. -----
4. -----
5. -----

4. How often should teachers make use of visual aids when teaching?

(a) Never at all

- (b) Occasionally
- (c) Whenever he/she comes across good visual material
- (d) In every theme that I teach

5. Are there any factors that hinder you from using teaching aids?

YES

No

If yes, please list down all of them down

- (a) -----
- (b) -----
- (c) -----
- (d) -----
- (e) -----

6. Name all types of visual aids available at your school.

- (a) -----
- (b) -----
- (c) -----
- (d) -----
- (e) -----
- (f) -----
- (g) -----
- (h) -----

PART 3

Tick the alternative that best suits the state of visual aids in your school in relation to the alternative given.

NA - Not Applicable

FR	-	Fair
VF	-	Very Fair
GD	-	Good
VG	-	Very Good
ET	-	Excellent

	FACTORS	NA	FR	VF	GD	VG	ET
1	The supply of teaching materials						
2	Willingness by the community to make visual aids						
3	Opportunity for attending material development workshop						
4	Availability of funds for producing teaching material						
5	Storage facilities for teaching materials						
6	Time for using teaching aids						
7	Number of teaching aids at school						
8	Your relationship with primary school teachers						
9	Relationship with school administration						
10	Relationship with DICECE officers/supervisors						
11	Support from parents/community in material development						
12	Advice by TRC Tutor about use of teaching aids						
13	Attitude of the children you deal						

	with towards visual aids							
14	Provision of play materials by parents to their children P							
15	Your relationship with primary school children							
16	Freedom to select teaching materials							
17	Average number of visual aids available for each group of children P							
18	Encouragement to use visual aids by Headteachers P							
19	Comparison of your teaching aids with other teachers							
20	Time available for making teaching aids							
21	Training you have had in making visual aids							
22	Chance to ask other teachers to assist in making visual aids							
23	Chance to ask primary school pupils to assist in making visual aids P							
24	Your knowledge in making teaching materials P							
25	Willingness of your children to bring materials to school P							
26	Availability of pre-school classroom P							
27	Method of locking your classroom door and window P							
28	Safety of visual aids in your P							

	classroom						
29	Amount of local materials used						
30	Amount of commercial materials used						
31	Frequency of using teaching aids						
32	Relationship between you and sponsor						
33	Variety of teaching materials in your class						
34	Frequency of changing visual aids already used						
35	Space in your classroom						
36	Accessibility of your children to teaching aids						
37	Responsibility of handling teaching aids by children						
38	Accessibility of intruders to your visual aids						
39	Storage of materials not in use						
40	Your feeling about going back to school in the afternoon						

APPENDIX B

OBSERVATION SCHEDULE FOR PRE-SCHOOL TEACHERS AND THEIR
ECD CENTRES

The researcher will describe materials and visual aids used by the teachers by responding to the following questions:

1. (a) How appropriate are the visual aids for children's use?-----

- (b) Are they clear, tidy and properly labelled?-----

- (c) Are they sufficiently provided?-----

- (d) How safe are the visual aids for children's use?-----

- (e) What about their durability?-----

- (f) Are the visual aids conveniently arranged in the classroom?-----

2. Is there any evidence that the materials are frequently handled by children?-----

NB: *Dirty materials are those handled regularly by children.*

3. Do the materials in the classroom appear to be changed regularly to suit different activities?-----

4. Are the children's materials/work displayed?-----

5. Are the classroom doors/windows lockable?-----

6. What do the teachers use to display the charts?-----

7. If the charts are not displayed, where are they kept/stored?-----

8. From the live lessons conducted, are the visual aids appropriately and adequately used?-----

9. Which class activities were children able to carry out with ease? -----
