EFFECT OF PRE-PRIMARY EXPERIENCE IN NUMERACY AND LITERACY SKILLS ON PRIMARY SCHOOLS' PERFORMANCE IN MKURANGA DISTRICT

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A DISSERTATION SUBMITTED IS PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION IN ADMINISTRATION, PLANNING AND POLICY STUDIES OF THE OPEN UNIVERSITY OF TANZANIA

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CERTIFICATION

The undersigned certifies that, he has read and hereby recommends for acceptance by the Open University of Tanzania, a dissertation entitled: ***"Effect of Pre-primary Experience in Numeracy and Literacy Skills on Primary Schools' Performance in Mkuranga District"*** in partial fulfilment of the requirements for the degree of Master of Education in Administration, Planning and Policy Studies (MED-APPS) of the Open University of Tanzania.

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Prof. Issa Mcholo Omari

…….

Date

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DECLARATION

I, **Mary Justice Mbogo**, hereby declare that, this dissertation is my original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

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Signature

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Date

DEDICATION

This dissertation is dedicated to the members of my family, and my co-workers and St. Matthew School.

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First and foremost, all praise and gratefulness is due to Almighty God who endowed me with strength, health, patience, and knowledge to complete this study.

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ABSTRACT

This study aimed at finding out the effect of pre-primary experience in numeracy and literacy skills on primary school performance in Mkuranga district. Specifically, the study was intended to determine extent to which pupils in Mkuranga have attended pre-primary education, assess the performance differences between pupils who have attended pre-primary education and those who have not attended in terms of numeracy and literacy as well as evaluate their teachers' perception on the curriculum content coverage between pupils with pre-primary experience and those without. The study used quantitative approaches in which SPSS was used to analyze data. The study found that there is small difference between pupils with pre-primary experience and those without pre-primary experience in terms of their numbers. Where by 55% of the sample students were found to have pre-primary experience and 45% were found to have no pre-primary experience. In addition, pupils with pre-primary experience had high performance chances than those without pre-primary experience in both grade two and four. Furthermore, there is similar gaining between boys and girls with pre-primary experience. Pupils with pre-primary experience are perceived by teachers to have high ability of covering the curriculum than pupils than those without pre-primary experience. The study has concluded that pre-primary education enhances primary educational achievements. It was recommended that pre-primary school education should be encouraged by providing pre-primary educational facilities such as (classrooms, instructional materials, and equipments) needed for the success.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
MOEC	Ministry of Education and Culture
PLE	Primary Leaving Examination
SPSS	Statistical Package for Social Sciences
UNESCO	United Nations Educational Scientific and Cultural Organization
USA	United State of America

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Pre-primary education is the early special education provided to the children, prior to their entering the primary school. Usually pre-primary education is the education meant for children between the ages of 3 to 6 years prior to their entering the primary school (Magnuson et al 2005). In the context of formal education, it is the first step in child's educational journey (Currie, 2001; Mezieobi 2006). The importance of effective pre-primary education for high quality primary education has received increasing attention all over the world. Studies have shown that children who attended quality early education programs are more likely to have better test scores and aggregates in primary schools (Currie, 2001; Kaul 2013). Cascio (2004) who conducted a study in United State of America (USA) had found that pre-primary education significantly prevent subsequent grade repetition in primary education since it lays a foundation for reading and mathematics skills to children.

Across the world children who have been to pre-primary schools tend to learn more rapidly through an organized curriculum, learning aids and by interacting with other children (Sheridan, 2010). At the World Forum on Education for All, held in London in 2000, the international community made a commitment to expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children (Abdul, 2006). The developed countries have succeed in upgrading the pre-schools and primary schools educational process and consider the level of attention given to the preparation of the learner's education

a measure of the civilization of the nation. Many educators in developed countries perceive the improvement of pre-schools and primary schools education as the best investment in comprehensive human development. This improvement begins with the investment of human capital that possesses capabilities, skills and competencies (Ali, 2014).

The quality of pre-primary education in sub-Saharan Africa has been considered to be poor (Pence, 2004; Wortham, 2012). Africa is facing challenges on early childhood education such as: (i) improving the quality of pre-primary education; (ii) expanding education delivery; (iii) diversifying education services; (iv) developing education policies with a diverse range of strategies covering pre-primary education that is appropriate for African countries; (v) devising strategies for African governments to use; and (vi) making clear the benefits of using these strategies to structure their action, so that they develop an integrated and efficient education system. These challenges have been addressed in various ways by some countries in Africa while many others have simply turned a blind eye to the issues. However, the challenges are acute in African societies. United Nations Educational Scientific and Cultural Organization (UNESCO) have however taken the lead role to propose strategies that could pave way for achieving early childhood education goal (Rokhaya, 2010).

Pre-primary education deserves to be made a priority on condition that it focuses on comprehensive child development and it is provided in an environment that keeps to basic teaching/learning standards. It should also be aligned with a plan for progressive integration of children in their early years. If these conditions are met,

pre-primary education represents the most realistic means for the education system to deliver on the primary schools performance. Pre-primary education for all children is currently being pursued by several developing countries (Decker, 2005).

The emphasis on high quality in Tanzanian education began after independence when efforts were made to replace colonial oriented (Mandi, 1969; Lyabwene and Nirmala 2012).Pre-primary education policy in Tanzania was developed in 1995 and is part of the broader Education and Training Policy (Ministry of Education and Culture; MOEC, 2005). Under this policy, the government mandated primary schools to establish a pre-primary class in partnership with communities. In some cases religions organizations, the Government of Tanzania with the support of donors, particularly United Nations Children's Fund (UNICEF) and some groups have initiated various formal programmes for the care and education of the children. These programmes are known by different names such as Day Care Centres, Nursery Schools and Kindergartens although in most cases their activities do not always match with those institutions (Kweka, et al 2010).

Therefore, the researcher conducted this study in order to make clear an understanding of the effects of pre-primary schools education level in numeracy and literacy skills on primary schools performances. To see whether pre-primary education influence the good performance of pupils in primary schools or not.

1.2 Statement of the Problem

The government has deliberately made effort to improve infrastructure and other educational inputs in primary schools. Despite this, pupils' performance has been

persistently and alarmingly low in rural and suburban schools (Atuhurra, 2014), specifically in Coastal Region. The low academic achievement of pupils is a cause of worries and concern to many stakeholders in the rural and suburban as it is likely to impact on implementation and achievement of Universal Primary Education.

In the past five years, pupils' performance in the schools has been deteriorating. While a few pupils excel in their examination, the majority of the pupils perform poorly in rural and suburban areas. For instance, in 2013, only 25% of the Primary Leaving Examination (PLE) candidates in Mkuranga district got division one. In 2014, only 30 candidates in this district obtained division one. Last year 2015 again, only 24 candidates managed to get division one (Mkuranga District Education Office, 2016). In all these last three years, failure rates have been on the increase in Mkuranga district. Other than pupils' performance in examinations, there have been persistent complaints from teachers about the commitment and the participation of the pupils of Mkuranga district in their education.

In this study, researcher attempted to shed some light on the efficiency of pre-primary education by investigating its effects on the primary school performance in Mkuranga district. In fact, to the researcher knowledge, there have been very limited studies of the effect of pre-primary education to academic achievement of primary pupils in Tanzania.

1.3 Research Objectives

Research objects are the reasons of carrying out a given research and they are used in the formulation of research questions. Research objectives of this study are classified into general objective and specific objectives.

1.3.1 General Objective

The main objective of this study was to find out the effect of pre-primary experience in numeracy and literacy skills on primary school performance in Mkuranga district.

1.3.2 Specific Objectives

Specifically the study was conducted on the following areas.

(i) To determine the extent to which pupils in Mkuranga district have attended pre-primary education.

(ii) To establish the relationship in numeracy and literacy skills between primary school pupils with pre-primary experience and those without pre-primary experience.

(iii) To find out who gain most between boys and girls from pre-primary school experience.

(iv) To determine teachers perception on curriculum content coverage among pupils with pre-primary experience and those without pre-primary experience.

1.4 Research Questions

1.4.1 General Research Question

The general research question for this study is; what is the effect of pre-primary experience in numeracy and literacy skills on primary school performance?

1.4.2 Specific Research Questions

The study answered the following specific questions.

(i) To what extent pupils in Mkuranga district have attended pre-primary education?

(ii) What is the relationship between numeracy and literacy skills to primary school pupils with pre-primary experience and those without pre-primary experience?

(iii) Who gain most between boys and girls from pre-primary school experience?

(iv) What are the teachers' perception on curriculum content coverage among pupils with pre-primary experience and those without pre-primary experience?

1.5 Scope of the Study

According to Kothari (2004) the scope of the study help to clarify the boundary of the research and enable the researcher to deal only with tasks he or she focused to in order to make decisions about the changes required in the study. The study based on the discussion about the effect of pre-primary experience in numeracy and literacy skills on primary school performance in Tanzania. For this reason, the effects of teachers' motivation and other related factors on the performance of pupils in primary schools were not examined. In order to perform a reliable study as possible the researcher adhered to the objectives of this study. No question will be asked away from the themes of the study objectives. However, the study was limited in Mkuranga district located in Coast region.

1.6 Significances of the Study

The findings and recommendations of this study goes a long way in generating the much needed information that can be used by various stakeholders in education to

improve on the quality of education system in Tanzania, especially in rural and suburban areas. Through this study, the assessment results can be guideposts that can help both teachers and parents to identify their areas of strength and weaknesses and make necessary adjustments to fill the gaps in their roles in education system, especially in pre-schools and primary schools.

The study will also furnish policy makers, Ministry of Education, and politicians in the formulation of better policies regarding pre-primary and primary educations as well as in political debates. Lastly, the study is expected to add to the existing body of knowledge and act as a stepping-stone for later researchers in similar studies. It will also help future researchers who have the quest for improving education for pre-primary and primary learners.

1.7 Conceptual Framework

In evaluation of programs there are various evaluation methods (the management oriented evaluation), which have four steps: contextual, input, process and product (CIPP) model. The outcome based evaluation (OBE) model and four step training evaluation Kirk Patrick's model.

Table 1.1: Steps Associated within the Framework of each Evaluation Model

CIPP Evaluation Model		**Outcome-Based Evaluation (OBE)**		**Kirk Patrick Model**
Evaluation Levels	Class of Decision Marking	Evaluation Levels	Methods	Framework Levels
Context	Planning	Program	Formative	Reaction
Input	Structuring	Effectiveness		Learning
Process	Implementing	Impact	Summative	Behaviour
Product	Recycling	Policy		Results

Source: Field Data, 2016

The contextual, input, process and product (CIPP) model developed by Daniel Stuffle Beam in order to create an evaluation method that aimed at helping people to make better decisions about their educational programs and products, (Fitz Patrick et al, 2004).

The CIPP model is a management oriented approach which provides definitive and valid information for decision makers in order to come to the judgment concerning the correct state of a program, (Fitz Patrick et al, 2004). The evaluator's effectiveness ability should be contingent in order to get information needed by various stakeholders who aim to use that information for decision making on their programs (Stuffle beam, 2003).

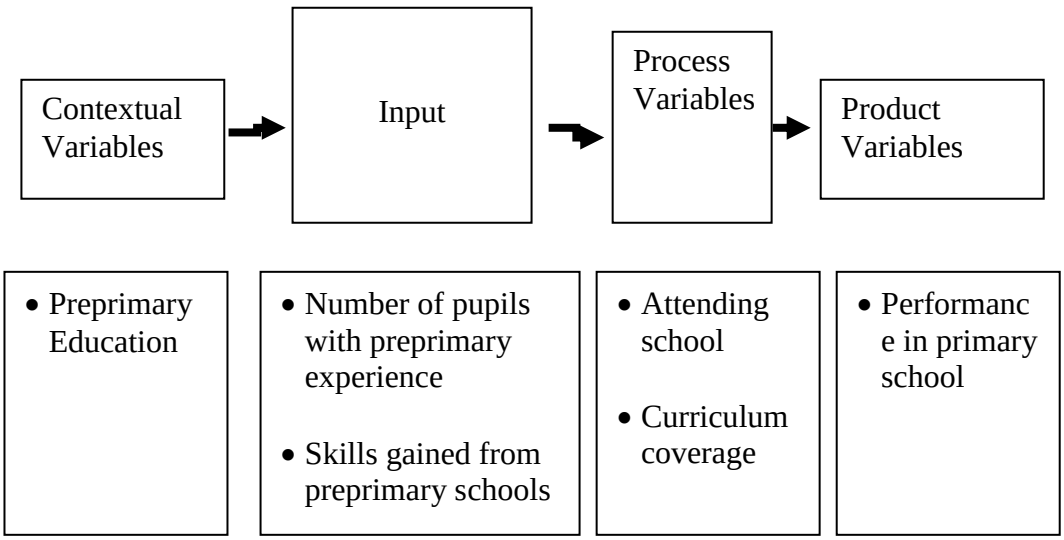

Figure 1.1: Conceptual Framework for the Study

Source: Sufflebeam (2003)

The CIPP evaluation model developed four different classes of decision making which are planning (selective objectives), structuring (designing a project around

specified objectives), implementing cooperating and executing a project), recycling judgment and reaction) these three different classes correlate with the evaluation methods of this model.

1.7.1 Explanation of Conceptual Framework

A variable can be referred as characteristic that can assume two or more properties. If a property can change either in quantity or quality, then it can be regarded as variable (Kenneth, 2005). In this study there are four types of variables, which are contextual variables, input or independent variables, process variables and product or dependent variable. Contextual variable in this study dealt with presence of pre-primary schools in the study area. In which researcher noted whether there was pre-primary schools in the targeted area or not.

Input or Independent variables are the variables, which a researcher has control over them; they can be referred as the variables that the researcher can choose and manipulate. It is normally what researcher thinks will affect the dependent variables. In some cases a researcher may not be able to manipulate the independent variables. It may be something that is already there and is fixed, something researcher would like to evaluate with respect to its impacts to something else (i.e. the dependent variable) (Patton, 1990). In this study independent variables were developed by researcher and examined based on the findings of previous researchers. These include: first, number of pupils with pre-primary experience in which researcher believed that performance in primary schools increase with the increase of the pupils with pre-primary experience.

Second independent variable was skills gained from pre-primary schools, where it was assumed that performance of pupils in primary school also depend on the quality of the skills/knowledge obtained by individuals/pupils in pre-primary school. However, the study tested if there is difference gain between boys and girls in pre-primary experience. Third was curriculum coverage whereby the study assumed that pupils with pre-primary experience could be able to cover curriculum easily compare to non experienced pupils. It was also thought that they could be some difference between pupils with pre-primary experience and those with no pre-primary experience in terms of the curriculum coverage ability.

On other hand, product or dependent variable is what a researcher measures in the study, it is what is affected during the period. Dependent variable tends to respond to independent variable (Patton, 1990). From the study, the researcher related what have been known to be independent / exploratory variables with the pupils' performance in primary school. Therefore, dependent variable was pupils' performance in primary school.

1.8 Organization of the Study

The structure of the study is as follows:

Chapter 1: Is the introductory section, which contains background of the study, statement of the problem, objectives and research questions, scope of the study, significant of the study and the organization of the study.

Chapter 2: In this chapter the study covered the review of the literature work done by other researchers on the issues related to the effect of pre-primary experience in

numeracy and literacy skills on primary school performance in Mkuranga district; where it consists of the definition of key terms, related theories, empirical studies and conceptual frame work.

Chapter 3: Different methods that the researcher adopted in collecting data in the study were presented in this chapter with the main focus on the description of research design and the justification of the collected data.

Chapter 4: This is the main part of the study, which discussed in detail and presents the findings from the investigation of the effect of pre-primary experience in numeracy and literacy skills on primary school performance in Mkuranga district.

Chapter 5: After present and interpret the results obtained in this study, next was the discussion of these findings. The discussion material are the results of the findings obtained from the analysis of the study findings, ideas contributed by respondents during interviews, ideas of the researcher and other peoples who shows interest in this study and contribute their views in one way or another on the numeracy and literacy skills of the pupils with and without pre-primary experience. Also, findings of other researchers in this area were included to justify the results of present study.

Chapter 6: This chapter provides conclusions and recommendations to the main findings in this study. The chapter ends with identifying areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction of the Chapter

This chapter reviews different literatures in the related study. The chapter also contains definition of the key terms, theoretical review, empirical review and conceptual framework.

2.2 Theoretical Definitions

In theoretical definition the meaning of key words that appeared most frequently in the study is provided. The most popular terms in this research are: pre-primary education/school, primary education/school, performance, numeracy skills and literacy skills.

2.2.1 Pre-primary Education

Pre-primary education is also called nursery school education and kindergarten education. Pre-primary education is referred to any systematic program in which young children participate before they do enter in primary schools that is designed to promote children's social emotional, academic, linguistic and literacy skills as well as health (Wilayat and Arshad 2002). Worldwide, pre-primary education is meant for children between the ages of 3 to 6 years in order to ensure the child's right to protection, care, survival and preparation for school education through play, amusement and introduction to literacy and numeracy, irrespective of the child's physical, mental and social status (Barrett, 2005; UNESCO, 2008). This study defines pre-primary education as an early childhood training aimed at providing,

preparing and developing children's mind on basic way of understanding interpreting, attempting and interacting in any given situation before the formal school age.

2.2.2 Primary Education

A primary education is the learning stage in which children receives an elementary education from the age of about five to fifteen years. This primary education is coming before secondary school education and after pre-school education (UNICEF, 1999). Also primary school refers to that which the rudiments or elementary of knowledge are taught (Hawkins, 2007). The study defines primary education as compulsory education level that comes in early childhood to enhance child's knowledge and have basic understanding of various subjects as well as the skills he/she will use throughout his/her lives.

2.2.3 Literacy Skills

Literacy is defined by the Oxford English Dictionary as the ability to read and write. However, in recent decades, due to innovations and developments in technological advancement and varying shifts of demands in education sector, literacy has taken on a wider meaning by different researchers. Decker (2005) referred literacy as the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society (Lyabwene and Nirmala, 2012). This study defined literacy skills as the ability to read, write, and understanding of a given context in a form of text.

2.2.4 Numeracy Skills

Numeracy can be defined as a range of skills from basic arithmetic and logical reasoning to advanced mathematics and interpretative communication skills (UNICEF, 1999). Numeracy is an ability, which enables someone to reason and to apply simple numerical concepts. Basic numeracy skills consist of comprehending fundamental arithmetic like an addition, subtraction, multiplication and division. The study defines numeracy skills as a standard that gives someone ability to use mathematical understanding and skills to reorganize and handle given situations and challenges with mathematical reasoning to accomplish demands of day to day living in any given social setting.

2.2.5 Performance

Kweka *et al.,* (2010) defines performance as an execution of a particular occasion as opposed to what has been learned about the task. Atuhurra (2014) defines performance as a concept that is broadly used to emphasize the extent to which the regularities of social life are performed, rather than simply pre-existing. Hawkins (2007) also defines performance as achievement.

In general performance is an accomplishment of an action, operations or process undertaken or ordered. Rokhaya (2010) defines academic performance as the attainment of the required academic aspects with a variety of aspects such as school subjects, qualifications and aspects of competence. Performance in this study was referred as academic achievement or achievement of child on scholastic work; where in, the child/ pupil success in meeting what is expected from him/her in term of education.

2.3 Theoretical Review

Several theories and approaches have been established to give meaning to different education concepts. Each theory has its meaning and context in which if applied will produce desired outcomes. A theory has its meanings; terms, ideas and some of them have a model, which elaborates the given phenomenon. This study stood on the following theories:

2.3.1 Operant Conditioning Learning

According to Skinner (1945) learning theory denote that achievement vary among individuals due to several reasons. Level of performance and aspirations of pupils depend on factors linked to the level of education of parents, family income and marital status of parents. Likewise, Maani (1990) observes that pupils' success at schools is closely related to their home backgrounds. These include; level of education of parents, family income, parents' marital status, and attitudes of parents towards education of their children and the children's attitudes and the quality of learners admitted in school.

The theory further emphasizes the importance of motivation, involvement in learning by learners and involvement of parents in supporting their children's education. According to Obanya and Ezewu (1988) cited Pence, (2004) the higher the status of a family, the more likely it motivates its children to learn and perform better. Skinner (1945) advised that for proper learning to take place, learning experience should be guided and appropriately be controlled. This means, the environment or the circumstances under which learning occurs should be supportive and conducive enough for effective learning and achievement.

In relation to this study it can be said that pupil's academic performance in primary school can be mostly influenced with parents' characteristics (i.e. parents' level of education, economy and marital status). This being the fact it can be assumed that pre-primary experience influence achievement in primary school if parent characteristics and not favourable to support learning.

2.3.2 Constructivist Theory

The main proponent of constructivist theory is Piaget whose ideas originated from psychological stages of development of children where the basis of learning is discovery. According to him, intellectual growth involved three processes. These processes are assimilation, accommodation and equilibrium. Piaget ideas on constructivism focused on individualization of learning and believed that human inquiry is embedded within an individual who construct knowledge through his or her action in environment (Pass, 2004). In addition to that:

> *"No behaviour, even if it is new to the individual, constitutes an absolute beginning. It is always grafted onto previous schemes and therefore amounts to assimilating new elements to already constructed structures" (Irby, 2013: 171).*

From this expression it can be said that the new behaviour is not created by man rather it is established by individual from the experiences he or she has been through by either assimilation or accommodation. The theory was later supported by Montesory, Brunner and Vygotsky. Constructivism's main idea is that learners are capable of constructing their own knowledge. The knowledge constructed by learners can be from their personal experience or as a result of interaction with peers or with the teachers. That means a learner interaction is important because

knowledge cannot be developed in isolation but through being in contact with others in the society or a given environment. Pelech and Pieper (2010) believe that "constructivism is a philosophy that views knowledge as a subjective that is shaped and structured by one's experience."By merely being in contact with others, a person will construct new knowledge.

Even though both Piaget and Vygotsky have made contributions to the constructivists' ideas they differ in the way they interpret the theory. Piaget believes that knowledge is constructed by an individual while Vygotsky emphasizes that knowledge is being constructed form man's experience in a social context. In line with this Pass (2004) argues that Piaget focused on an idea that human inquiry is rooted within an individual who constructs knowledge through his or her action in the environment. While Vygotsky idea base on the focus that human inquiry is embedded within culture, which is embedded within social history. However Piaget did not disagree with Vygotsky's idea on the importance of social aspects in learning as an essential aspect on knowledge development.

This study had chosen to work with Vygotsky's idea on social constructivism because for the child/pupils in primary school to develop knowledge/skill, social context has a contribution. Vygotsky's constructivist theory is better known as social constructivism. According to him culture and social context are very important in cognitive development. To him social context appear to be very important and human inquiry is embedded within culture, which is embedded within social history (Pass, 2004). Culture provides the child cognitive tools needed for development such as language, cultural history and social context.

In addition, man not only develops naturally, he also constructs knowledge himself from what he or she has learned through experience (Ratner, 1991). Knowledge need to be built by a person, not just transmitted to a person. Hoover (1996) suggests two simple but important ideas that highlight the notion of constructed knowledge that; first, prior knowledge always influences the formation of new knowledge and second learning is an active process.

According to this theory, it can be believed that there is no lesson to the pupils constitutes an absolute beginning. Whether writing, reading or counting a child/pupil must have some prior knowledge acquired from the community surrounding him/her. It is often true that a child can have little knowledge on how to write and read some letters trough listening and watching his/her elders and friends. In light of this explanation it can be assumed that a pupil without pre-primary experience can compete equally with his/her counterpart pupils who attended pre-primary school, since he/she has some preliminary skills acquired from interaction with other members of society. This being the fact the study wanted to know if there is clear difference between pupils with pre-primary experience and pupils without pre-primary experience in terms of numeracy and literacy.

2.4 Review of Related Studies

There are a number of researches, surveys and studies conducted in this topic. The studies have been conducted in varied dimensions and also across various sectors of learning. Here are some of the studies that were conducted by researchers across the globe on similar problem.

Perry (1999) cited in Atuhurra (2014) carried out a study aimed to determine if attendance in a good quality pre-primary had imparted positive results on primary mathematics readiness skills and achievement. Participants were 80 children, 4 to 6 years old, divided into two experimental and two control groups. Each of the experimental groups attended pre-primary education, whereas the control groups had no pre-primary experience. The results indicated that the experimental groups scored significantly higher than control groups. Therefore, the study suggesting that attending preschool had a positive effect on mathematics readiness skills and achievement.

Samuel and Berlinski (2006) investigated the effect of a large expansion of universal pre-primary education on subsequent primary school performance in Argentina. They found that one year of pre-primary school increases average third grade test scores by 8 percent of a mean or by 23 percent of the standard deviation of the distribution of test scores. They also find that pre-primary school attendance positively affects student's self-control in the third grade as measured by behaviours such as attention, effort, class participation, and discipline.

Mtahabwa (2009) carried out study to examine the relationship between pre-primary educational policy and actual practice in Tanzania. Policy relevant to pre-primary education was analyzed and 15 pre-primary lessons from two urban and two rural schools were videotaped. Although the national educational policy specifies the same standards for pre-primary education regardless of location, there were considerable differences across schools. Compared to urban classes, rural ones had considerably less space, larger group sizes, less favourable teacher/pupil ratios, fewer instructional

resources and less qualified teachers. Teacher professional qualifications appeared to influence the quality of classroom interaction more than the physical setting and resources. In conclusion urban pre-primary schools have much better conditions for learning and teaching than rural ones therefore to a great extent children in urban settings attend pre-primary education than their counterpart in rural areas.

Osakwe (2009) conducted a study and pointed out the impacts of early childhood education experience on the academic performance of primary school children. Research instrument used was the school continuous assessment records. Three hypotheses were formulated and tested using z-test statistics at $\alpha = 0.05$. The study showed that there was a significant difference between pupils who had pre-primary education and those without in their academic performances. It was narrated that those who attended pre-primary education had high level of understanding the subjects, high cognitive ability and high social skills compare to their counterpart.

The study conducted by Sheridan (2010) found that both girl and boys are mostly pupils who benefit from pre schools program. This is happened because most of pupils who join in pre-primary school aged 3-6 years old does not engage in domestic activities thus they had less restriction to join pre-primary school compared to those who are in primary school whose girls are mostly engaging in help parents in domestic activities like cooking, washing clothes etc.

Differences in numeracy and literacy skills among pupils also depend on the kind and type of pre-primary school attended. Yorke (2012) compared curriculum and experiences provided to children in pre-primary and subsequently primary school.

He used qualitative approaches to study and compare pre-primary school provision in public and private pre-primary schools in Kumasi Ghana. Data gathered revealed that pupils who were able to write the full set of the 26 English alphabets in the written test constituted 8% in public pre-primary schools as against 40% in private primary schools. 25% of pupils in pre-primary school were however managed to write numbers 1 to 10 sequentially as against 44% in pre-primary school. Irrespective of the scores attained, some children from both schools had challenges in writing which is typical of any young aged child who have only began to write.

A longitudinal investigation on gender differences of grades 4-8 by Bursal (2013), observed 222 elementary students in science and technology courses. The study compared between boys and girls grade level achievement. It was revealed that girls consistently had slightly higher scores than boys. Furthermore, it was observed that this difference became statistically significant as the grade level increased. This means that girls are likely to do better than boys if all conditions are constant and favourable.

Wilayat and Arshad (2014) conducted a study to show effects of pre-primary education experience on the academic performance of primary school children in Peshawar District of Pakistan. The study was survey type and descriptive in nature. The study sample population comprised of all primary school pupils of government and private schools. Hundred pupils from three government and two private schools were selected. The scores were obtained from the annual results of top four students of class one to five. A questionnaire was also designed for teachers of the schools to give information about the children with pre-primary school experience and those

without such an experience. In result, pupils with pre-primary education significantly outperformed their counterparts without such prior experience in all the five schools where survey was taken. In conclusion, it was narrated that pre-primary education equip children with prerequisite skills which make learning easier and faster.

A study conducted by Sentamu (2014) investigated gender differences, completion and achievement among students. Results from the study show that girls were more favoured in school completion and achievement in examinations than boys. The findings were consistent with the study by McConnell *et al.*, (2003) cited in Wortham (2012) which also proclaimed that gender differences in literacy and numeracy achievement were significant in favour of girls.

Ouko (2015) conducted research in Gucha District of Kisii County, Kenya to compare achievement of standard one pupil in literacy and numeracy. The study further investigated the influence of pre-primary school learning experiences. The study used Ex post facto research design. The study selected pupils and teachers from both public and private primary schools. Purposive and stratified random sampling techniques were employed. The study found that pre-primary education has great impact on academic achievement to standard one pupil. It was further stipulated that pre-primary school learning experiences and type of school attended influenced pupils' achievement in literacy and numeracy. The study concluded that, in order to improve pupils' achievement in literacy and numeracy, parents and head teachers should ensure that children have quality pre-primary school experiences so that they may have adequate school readiness skills to help them to cope with

standard one syllabus. It was also recommended that the government should put policies in place to make pre-primary school mandatory to enhance academic performance at primary and subsequent levels.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter gives the methods by which the objectives are addressed. It includes; study design, area of the study and population. The data, the sources and the methods used in the analysis are explained in this chapter.

3.2 Research Approach

The study is aiming at finding out effects of pre-primary education on academic performance of primary school pupils in Mkuranga District. Numerical data was mostly used in the study to answer the research questions posed in chapter one. Quantitative strategy or approach is about prediction, generalizing a sample to a larger group of subjects and using numbers to prove or disprove a hypothesis while providing answers to research questions of what and when (Polit and Beck 2003).

According to Bowling (2014), quantitative approach deals with quantities and relationships between attributes; it involves the collection and analysis of highly structured data in the positivist tradition. Quantitative approach has been employed because the researcher wished to conduct the study, which demonstrates a high degree of objectivity which shows clear difference between pupils who attended pre-primary education and those who did not.

3.3 Research Design

According to Saunders, *et al* (2009) a research design is simply the framework for a study. It provides useful guidelines to collecting and analyzing data. However, there

is no single perfect research design for all studies. The selection of a suitable research design depends on a number of criteria such as internal and external validity, reliability, level of measurement for each variable, levels of analysis, time duration, cost factors, research ethics, etc. A careful attention to all these factors by the researchers is important. Hence, many research design frameworks can be found depending on the nature of the research.

The research design for this study was causal descriptive-survey type, designed to look into the effect of pre-primary education on the academic performance of primary school pupils. The study used descriptive-survey design because the author had prior knowledge about the study phenomenon attained from the literature review that is through the theories as well as empirical literature, and as such the study rested on a number of specific statements that guided the study/research on a definite direction. More ultimately, the study aimed at describing objectively the extent to which pre-primary education has influenced performance in primary education.

3.4 Area of the Study

The study was conducted in Mkuranga district of Coastal Region. The selection of this study site was based on the following: the area was the one of the areas that were currently expanding at high rate following the increase of number of people in the city of Dar es Salaam; therefore, it has been argued that population in Mkuranga increase very faster. Number of children is very high compare to the pre-primary school places and therefore some parents/guardians send their children to the primary schools without pre-primary education.

Moreover, many pupils have been reported to perform badly in their grade seven national examinations while some drop schools (Ministry of Education, 2015, 2016). More ultimately familiarity with the area has motivated the researcher to conduct research in this area. Researcher was living and work as a secondary school teacher in this area.

Due to this the cost of conducting a study in terms of accommodation and travelling were reduced. However, it was wise to know that Mkuranga District is situated between Latitude 6° 5’ and Longitude 38° 15’. Mkuranga District is one of the six districts of the Coastal Region common known as Pwani Region.

3.5 Study Population

Population is the totality of observation with which the researcher is concerned (Sekaran, 2003); the study based on finding out effect of pre-primary education on academic performance of pupils in primary schools. Therefore, the target group of this study was the primary school pupils and their teachers. They were visited in different schools within the study area.

3.6 Study Sample

3.6.1 Sampling Design

It is worth to understand that sampling will be used because it is suggested when sample elements and location are chosen to fulfil certain criteria or have attributes under study (Sekaran, 2003). The study selected three schools from three wards of Mkuranga District. These are Mkuranga Primary School from Mkuranga ward,

Ngarambe Primary School from Mbezi ward and Mwalusembe Primary School from Mwalusembe ward.

These schools were selected base on the fact that they are among primary schools with pre-primary education/school. All these are public/government schools, which offer free education to children as per government policy of free primary education in order to make primary education compulsory to all individuals, especially children.

The study selected top thirty pupils from grade two and four from each of the mentioned school. Grade one pupils were not selected because it is well known that in normal situation there is clear academic performance gap between grade one pupils with pre-primary experience and those without such experience. With this in mind, it was interesting to view the effect of pre-primary education in other classes apart from grade one. For those who were selected the research drawn a line of demarcation between those who had pre-primary education and those who did not have it. Three teachers were also selected from each of the selected class (grade two and grade four) in all three schools.

3.6.2 Sampling Procedure

The choice of a sampling technique depend in a situation whether a sampling frame is available or not, that is, a list of the units comprising the study population. There are two types of sampling procedures namely probability sampling and non-probability sampling. Miles and Huberman (2004) defined probability sampling as that type of sampling, which includes all types of elements of the population.

In probability sampling each element has an equal and independent chance of being selected in a sample while non-probability sampling is the one, which does not based on the theory of probability. If sample frame is available the researcher is advices to use probability, sampling techniques such as simple, stratified and cluster random sampling techniques. And if it is not available the researcher has to use non-probability sampling techniques such as purposive, convenience and snow ball sampling techniques (Kothari, 2006).

For the case of this study, since the sample was designed to select top thirty pupils from grade two and grade four of each of the mentioned three schools, the researcher used purposive sampling technique. This technique is used when researcher has the character(s) he/she is looking for; the characters/criteria which were considered in selecting pupils were: being either grade two or grade four pupils in aforementioned schools, being within top thirty in the end of term examination. In selecting teachers both purposive and convenience sampling techniques were used.

3.6.3 Sample Size

Sample size is the number of respondents selected to participate in the study from targeted population. It depends on the accuracy needed, population size, population heterogeneity whether the sample will be subdivided or not and resources available (Bailey, 1994). Kothari (2006) reiterated this definition by defining a sample size as the number of items to be selected from the universe to constitute the sample. The sample size of this study included thirty (30) pupils from grade two and fours in the three mentioned primary schools. Therefore, a total of one hundred and eighty (180) pupils were selected. Also three (3) teacher of grade two and three (3) teacher of

grade four from each of the mentioned schools were selected. Total number of eighteen (18) teachers was selected. Altogether, they were 198 respondents in this study as shown in the Table 3.1.

Table 3.1: Sample Size of the Students

School	**Students**		**Teachers**		**Total**
	Grade Two	**Grade Four**	**Grade Two**	**Grade Four**	
Mkuranga	30	30	3	3	66
Ngarambe	30	30	3	3	66
Mwalusembe	30	30	3	3	66
Total	**90**	**90**	**9**	**9**	**198**

Source: Field Data (2016)

3.7 Demographic Characteristics of the Sample

In this subsection researcher has discussed background of sampled pupils in terms of their grade and genders. It should be remembered that the study selected three primary schools which are Mkuranga P/S, Ngarambe P/S, and Mwalusembe P/S. In each school the study selected thirty (30) pupils from each of grade two and four who performed better in their end of term examination. Table 4.1 illustrate that a total of sixty (60) pupils were selected from each of the mentioned three primary schools. All together were one hundred and eighty (180) pupils. Total number of boys in a sample was 89/180 (49.4%) and number of girls was 91/180 (50.6%). Since number of boys and girls were nearly equal, this indicates that generally there is no significant difference between boys and girls in terms of performance in the visited primary schools (N.B the study selected first thirty best performers).

Table 3.2: Demographic Characteristics of Respondents

Variables		Selected Primary Schools			TOTAL
		Mkuranga	Ngarambe	Mwalusembe	
Grade of the Selected Pupils	Grade two	30 (50.0%)	30 (50.0%)	30 (50.0%)	90 (50.0%)
	Grade Four	30 (50.0%)	30 (50.0%)	30 (50.0%)	90 (50.0%)
	TOTAL	60 (100%)	60 (100%)	60 (100%)	180 (100%)
Gender of the Selected Pupils	Male	27 (45%)	29 (48.3%)	33 (55.0%)	89 (49.4%)
	Female	33 (55.0%)	31 (51.7%)	27 (45.0%)	91 (50.6%)
	TOTAL	60 (100%)	60 (100%)	60 (100%)	180 (100%)

Source: Field Data (2016)

3.8 Methods of Data Collection

Data collection was preceded by identification of the data sources and designing of suitable data collection template. The data for this study were mainly generated from school result records. Accordingly, documentation was the main method of collecting data in this study. Questionnaire was also used to solicit information from teachers regarding curriculum content coverage between pupils who attended and those who did not attend pre-primary education.

3.8.1 Documentary Review

Documentary review was used to obtain necessary data for establishing performance difference between pupils with pre-primary experience and those without such experience. The main source of information on pupils' performance was from the administrative records on school outcomes of pupils. The study collected pupils' academic results for the end of term examination in the year of 2016.Specifically,

only the mathematics and Kiswahili language results were picked to determine numeracy and literacy skills of pupils, respectively. It is important to note that in Tanzania the end of term exams in primary schools are usually conducted at the end of May.

3.8.2 Questionnaire

A questionnaire is a collection of questions based on the subject of interest to the researcher and completed by the respondent. Questionnaire was preferred as a survey instrument to obtain data from the selected teachers. It covered teachers' perception regarding curriculum coverage between pupils with pre-primary experience and those without such experience. According to Bailey (1994), the advantage of this method is that it's less expensive, permits anonymity and may result in more honest responses. Another advantage is that the researcher does not have to be present; this eliminates bias due to phrasing questions differently for different respondents.

Structured questionnaire was prepared and sent to the respondents by hand, a self admitted technique. All responded teachers were given the same copy of questionnaire and the purpose of the questionnaire was explained to the selected teachers as well as how to fill it. Each question carried a five Likert scale respond mode, with possible answers ranging from "strongly disagree" through increasing levels of agreement to "strongly agree." The whole process of data collection and compiling took a period of three weeks. Before collecting data for the main study a pilot study was conducted and reports generated and shortfalls were identified and rectified.

3.9 Data Analysis

This study collected quantitative data only. Babbie (2004) narrated that normally quantitative research approach tend to focus on analyzing numerical data, compared to qualitative approach which deals with meanings, examining the attitudes, feelings and motivations of people. The data collected were statistically analyzed for frequency, mean and standard deviation using Statistical Package for Social Science (SPSS, Version 20).

In analyzing process data was coded, investigated for integrity, analyzed and presented in useful outputs such as tables and figures for easily drawing of conclusions and to make recommendations regarding effect of the pre-primary education on the performance of the pupils in primary schools. Specifically, descriptive analysis was used to determine the strength of the variables in the study. Mean, standard deviation and frequency were used to explain the results of descriptive analysis. Also, box plots were also used to establish variations between variables in order to get meaningful and significant results on the problem under study. After data analysis it was revealed that pre-primary education has great impact on the academic achievement of pupils in primary schools, specifically from grade one to grade four.

3.10 Validity and Reliability of the Study

3.10.1 Validity of the Study

Polit and Hungler (1995) explained that validity is the extent to which the research data and methods used obtain considered precise, correct and accurate findings. The

definition also reflects on questions of how well the findings reflect on the truth, reality of the main questions. There are three kinds of validity as noted by Yin (1994). These are constructing, internal and external validity. Construct validity refers to the process of establishing the correct operational measures for the studied concepts.

The researcher ensured construct validity in this study by re-examining data entered in the analytical software before perform any analysis this was hand in hand with repetition of analysis procedures to ensure that the answer(s) is correct. Internal validity refers to the extent to which a researcher can prove that only the independent variable caused the dependent variable; it looks at the approximate truth about inferences regarding cause-effect or causal relationships.

Internal validity can be ensured through testing of hypothesis. Since this study did not test any hypothesis therefore internal validity was not applied in the study. External validity is aimed at determining if a study's findings are possible to generalize beyond the immediate case study. The results can be valid for the district, but it cannot be generalized to all districts in Tanzania.

3.10.2 Reliability of the Study

The reliability of measuring instrument is defined as the ability of the instrument to measure what is supposed to be measured. According to Kothari (1990), a measuring instrument is reliable if it provides consistent results. The results of this study can be said to be reliable because researcher was guided by information collected from review of the related studies and theories in drawing conclusion of the problem.

3.11 Recruitment of Research Assistants

One research assistant was recruited to assist during fieldwork; qualifications of these assistant include social scientist, experience in conducting social science studies and experience in interviewing respondents and good communication skills. Selected research assistant was trained for two days. The emphasis was on the study objectives, awareness of selection procedures, and importance of insuring data quality and minimizes missing data and how to maintain confidentiality of both respondent and the information collected.

3.12 Limitations of the Study

Careless mechanical processing might have distorted the findings. Errors might have crept in the results of the study because of incorrect labelling, coding, faulty tabulation and/or statistical calculations, particularly in the data-analysis stage. The study was conducted in Mkuranga District only, leaving behind other districts of the country. Therefore it is hard to generalize the findings of this study outside the study area.

3.13 Chapter Summary

In this chapter researcher have mentioned and justify the design chosen in conducting this study. Some of the preliminary information concern respondents have also been given in this chapter and much of this information is given in analytical chapter (chapter four) of the study. However, in this chapter methods and/or tools for data collection and analysis were widely elaborated. The chapter end-up with explanation of study validity and limitation of the study.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents the result of the study to the readers. The presentation is organized according to the research objectives and questions as well as the emerging issues. The first part provides background characteristics of the sampled pupils in terms of their grades and gender. The second part presents the results of study objective together with discussion of the findings. During discussion primary data obtained were compared with secondary data to give a better understanding of the situation. Unique quotes from previous researchers were taken as a basis of comparison of the different views to consolidate into finding of this study.

4.2 Results of the Research Objectives

This section presents analysis of the results of the study obtained from the primary data with the help of documentary review and questionnaires methods of data collection hand in hand with discussion that arose during interview with class teachers and peers. For better understanding of this chapter, the reader can go back and review the research objectives as stated in chapter one.

4.2.1 Pre-primary Experience of the Pupils in Mkuranga District

The first objective was to determine the extent to which pupils in Mkuranga district have attended pre-primary education. Cross tabulation and Chi-squire test was used to reach to the conclusion of this objective. Cross tabulation was performed in order to find out exact number and percentage of the pupils who attended and those who

did not attend pre-primary education, while chi-squire test was used to find out if there was significant difference among pupils of the three mentioned primary schools in terms of attending pre-primary education. The results have been presented in the Table 4.1.

Table 4.1: Number of Pupils with and without Pre-primary Education

Variables	**Selected Primary Schools**			**Total**
	Mkuranga	Ngarambe	Mwalusembe	
Pupils with pre-primary education	46 (76.7%)	28 (46.7%)	25 (41.7%)	**99 (55.0%)**
Pupils without pre-primary education	14 (23.3%)	32 (53.3%)	35 (58.3%)	**81 (45.0%)**
Total	**60 (100%)**	**60 (100%)**	**60 (100%)**	**180 (100%)**
$X^2 = 17.3$	df = 2		sig = 0.000	

Source: Field Data (2016)

The results in Table 4.1 show that there is the significant difference (p-value= 0.000) between sampled pupils in terms of their pre-primary experience. The observed significant difference is due to the fact that majority (46/60; 76.7%) of the pupils from Mkuranga P/S had attended pre-primary education compared to the other two schools were majority of pupils did not attend pre-primary education. Statistics in the table 4.2 show that 32/60 (53.3%) of the pupils from Ngarambe P/S had no pre-primary education while 28/60 (46.7%) had pre-primary education. Likewise, in Mwalusembe P/S many pupils who were 35/60 (58.3%) had no pre-primary education compare to the few who were 25/60 (41.7%) with pre-primary education. However, the general results show that 99/180 (55%) pupils attended pre-primary education while 81/180 (45%) did not attend pre-primary education. With these

results the study concluded that large number of pupils in Mkuranga District has attended pre-primary education but the difference between those attended and those did not attend pre-primary education is not so big.

4.2.2 Numeracy and Literacy Skills of the Pupils

The results that follow are to show the extent to which pre-primary education has increased numeracy and literacy skills development to the pupils in primary schools. Accordingly, the second objective of the study was to establish the relationship innumeracy and literacy skills between pupils who attended and those who did not attend pre-primary education. The study used pupils' scores in mathematics examinations to present numeracy/arithmetic skills (counting and calculating) and scores in Kiswahili language examinations to present literacy skills (reading and writing). The study used box plot to analyze the findings in which researcher considered mean scores and Quartile Range (QRs) of the boxes to explain the results.

The box plot 4.1 (Figure 4.1) present the results of numeracy /arithmetic skills of both grade two and grade four pupils; with pre-primary education and those without pre-primary education. The results show that the average mathematics scores of grade two pupils with pre-primary education was 55.27% (median = 55.27) while average mathematics scores of grade two pupils without pre-primary education was 32.61% (median = 32.61). The researcher estimated the extent to which pre-primary education can significantly increase mathematics performance of grade two pupils. This was performed as follows:

$$P = \frac{M_1 - M_0}{M_0} \times 100\%$$

Where:

Mo = Mean of pupils without pre-primary experience

M_1= Mean of pupils with pre-primary experience

P = Percentage increase of performance

$$\%\ Performance\ increase = \frac{55.27 - 32.61}{32.61} \times 100\% = 69.49\%$$

Now it can be assumed that pre-primary education can increase grade two mathematics performances (numeracy skills) by 69.49%.

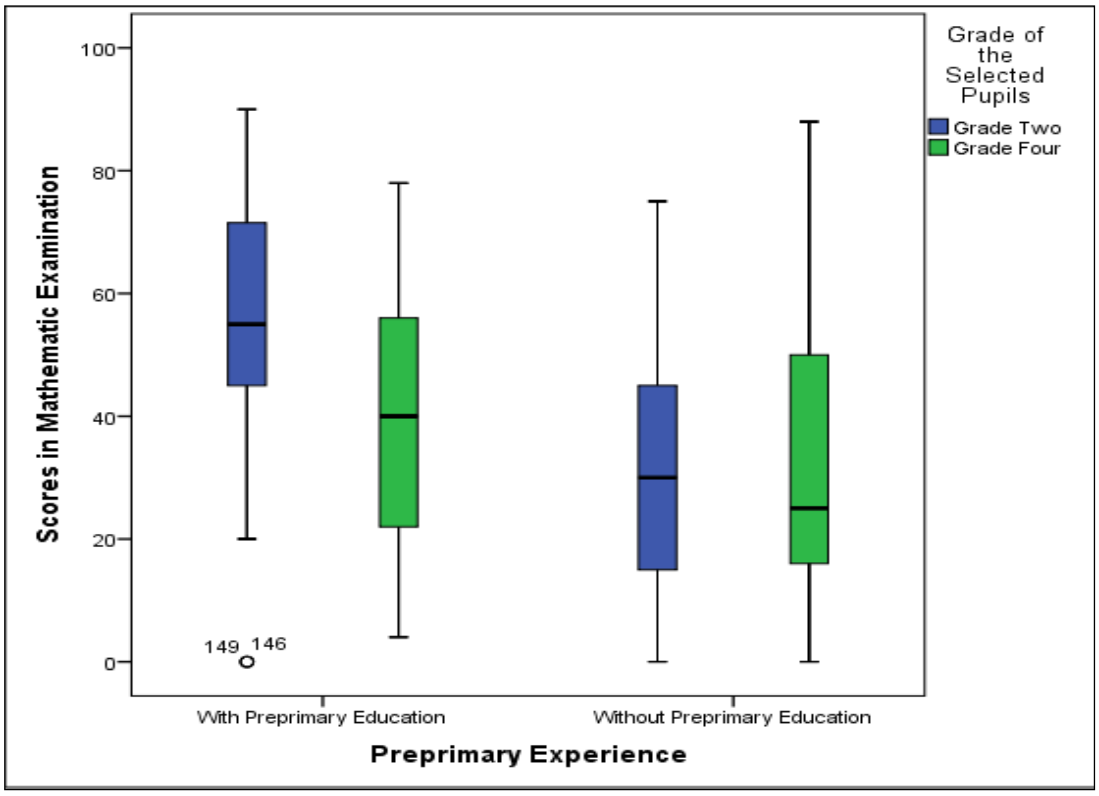

Figure 4.1: Box Plot for Numeracy Skills for Pupils with and without Pre-primary Experience

Source: Field Data, 2016

Moreover, the boxes for grade two pupils show that the majority of pupils with pre-primary experience had scored between 49.27% and 61.27% (QR= 49.27- 61.27) while majority of grade two pupils without pre-primary experience had scored

between25.91% and 39.30% (QR= 25.91-39.30). This indicates that grade two pupils with pre-primary experience performed better in mathematics compare their counterpart without pre-primary education.

Similarly, the box plot (figure 4.1) continue to show that the average score of grade four pupils with pre-primary experience in mathematics was 39.81% (mean = 39.81) while those without pre-primary experience had an average score of 34.23% (mean = 34.23). The Quartile Range for grade four with pre-primary experience was 33.78 to 45.83 meaning that majority of grade four pupils with pre-primary experience were scoring between 33.78% and 45.83% in mathematics. The QR for grade four without pre-primary experience was 26.97 to 41.50, hence majority of grade four pupils without pre-primary experience were scoring between 26.97% and 41.50%. With this statistics it can be said that pre-primary experience has positive impact in mathematics performance in grade four. The study also estimated the extent to which pre-primary experience can affect mathematics scores or performance of grade four pupils.

$$\%\ Performance\ increase = \frac{39.81 - 34.23}{34.23} \times 100\% = 16.3\%$$

It was concluded that pre-primary education can increase grade four mathematics performances (numeracy skills) by 16.3%. This shows that pre-primary education has impact on the numeracy skills development to the child in primary school. However, the impact decreases with the increase of the grades (i.e. grade two was 69.49% and grade four was16.3%). It is very evident in the literature that the effect of pre-primary education is observed on the early stages of primary education.

Longitudinal study conducted by Magnuson et al (2005) found that pre-primary education is associated with higher reading and mathematics skills at primary school entry, but that these correlations disappeared by the end of second to third grade.

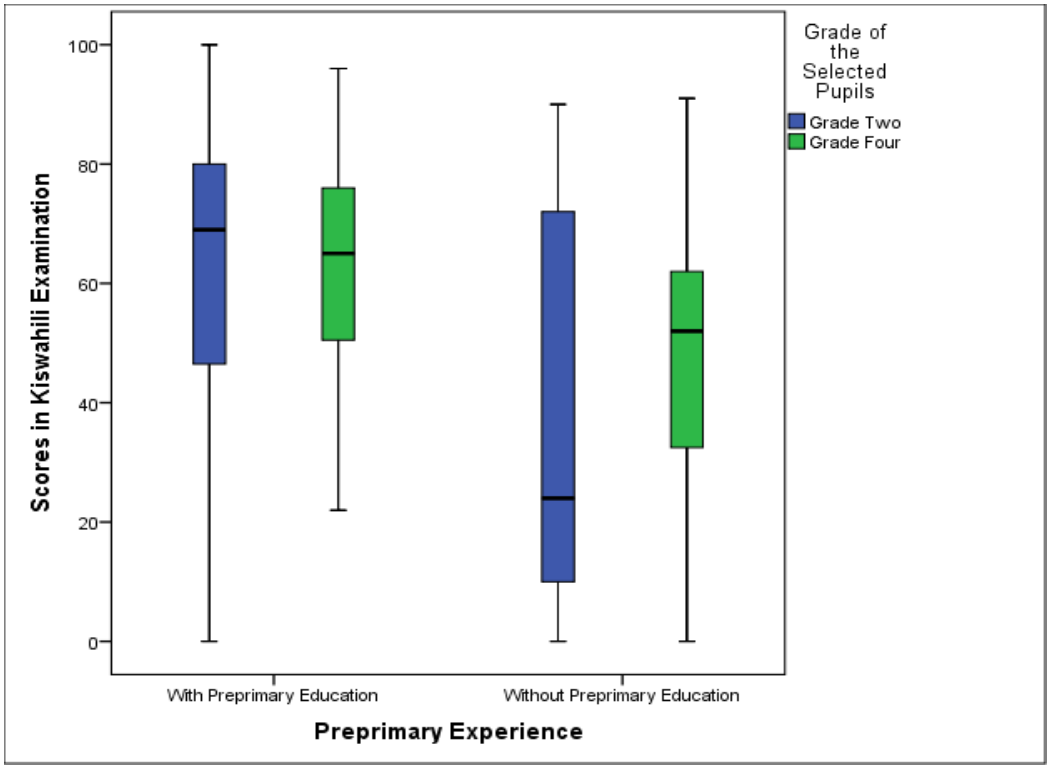

Figure 4.2: Box Plot for Literacy Skills for Pupils with and without Pre-primary Education

Source: Field Data, 2016

Figure 4.2 show the results of literacy skills for both grade two and four pupils with pre-primary education and those without in terms of their performance in Kiswahili language examinations. The boxes show that grade two pupils with pre-primary experience had performed Kiswahili exams better than those without pre-primary experience. The average score of grade two pupils with pre-primary experience in Kiswahili exams was 61.73% (mean =61.73) compare to those without pre-primary experience who had the average of 39.92% (mean = 39.92). It was also shown that

majority of grade two with pre-primary experience had scored between 55.21% and 68.26% (QR= 55.21 - 68.26) while majority of those without pre-primary experience had scored between 29.43%and 50.41% (QR= 29.43 - 50.41). This shows clearly that grade two pupils with pre-primary experience performed better in Kiswahili exams (i.e. reading and writing) that those without such experience. The percentage increase of Kiswahili performance (reading and writing) indicates that pre-primary education can increase literacy skills of grade two pupils by 54.63 percent.

$$\%\ Performance\ increase = \frac{61.73 - 39.92}{39.92} \times 100\% = 54.63\%$$

As well, the study found that grade four pupils with pre-primary experience performed better in Kiswahili language examinations compared to grade four pupils without pre primary experience. But the difference was not so big compared to the difference observed in grade two. The results (Figure 4.2) show that an average scores for grade four pupils with and without pre-primary experience were 62.72% (mean = 62.72) and 49.56% (mean = 49.56) respectively. In estimating percentage increase of Kiswahili (literacy skills) performance to grade four pupils, the study noted that pre-primary education can increase literacy skills of grade four pupils by 26.55%.

$$\%\ Performance\ increase = \frac{62.72 - 49.56}{49.56} \times 100\% = 26.55\%$$

4.2.3 Gained difference between Boys and Girls from Pre-primary Experience

The third specific objective was to find out who gain most between boys and girls from pre-primary school experience. Therefore, only those who attended pre-primary

education/schools were considered in this study. Box plot method was used to establish the results in which a researcher used mean of the sum of Mathematics scores and Kiswahili scores of all pupils with pre-primary experience; but they were not differentiated in terms of their grades. The results have been shown in Figure 4.3.

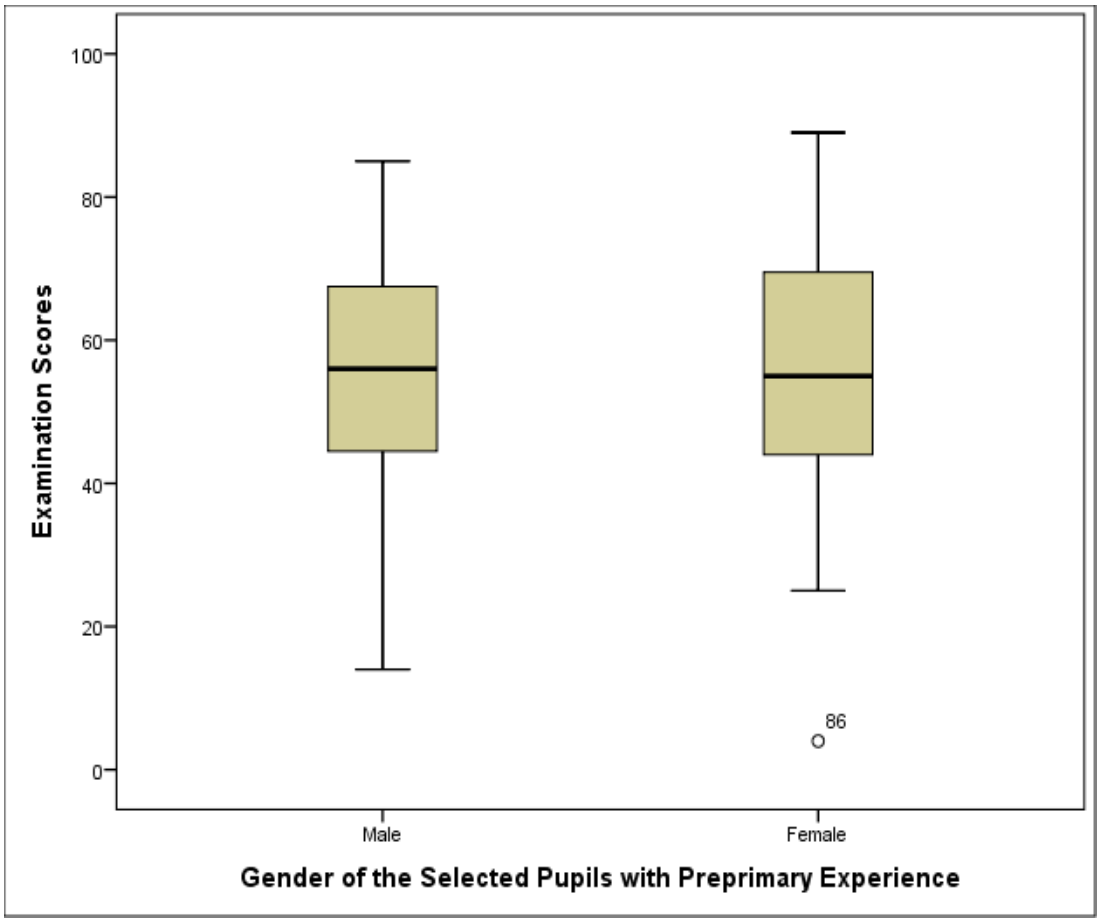

Figure 4.3: Gaining Difference between Boys and Girls from Pre-primary Experience

Source: Field Data, 2016

The results (Figure 4.3) show that performance average of boys with pre-primary experience was 54.56% (mean = 54.56) while for the girls was 55.84% (median = 55.84), the difference is 1.28% which is almost negligible difference. Majority of boys had a score range of 49.01%to 60.11% (QR= 49.01- 60.11) while majority of

girls had a score range of 51.32%to 60.36% (QR= 51.32 -60.36). It is apparently that the score ranges for boys and girls in primary schools-who attended pre-primary education are similar. Therefore, the study concluded that there is similar gain between boys and girls from pre-primary school experience.

4.2.4 Teachers' perception on Curriculum Content Coverage by Pupils of both Group

The third specific objective was to determine teachers' perception on curriculum content coverage among pupils attended and those who did not attend pre-primary education. Responded teachers were given questions in the form of short sentences with the aim of understanding their perception on curriculum content coverage between pupils with primary education experience and those without. The response mode of the questions had five Likert scale points which ranged from 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree. Descriptive analysis was used in which the findings were subjected to the mean and standard deviation. The results have been presented in the Table 4.2. It must be noted that the mean is the average value of response for each item on the Likert scale. This is simply the sum of the values divided by the number of values. The mean values were calculated by applying the following formula:

$$\bar{X} = \frac{\sum FX}{N}$$

Where $\sum FX$ =Sum of different observations

N = Number of observations

Standard deviation is however a measure of variation. This uses all the observations, and is defined in terms of the deviation (*xi*-μ) of the observations from the mean. The variation is small if the observations are bunched closely around the mean, and large if they are scattered over considerable distances. The following formula was used to get the values of standard deviations:

$$S.D = \pm \sqrt{\left(\sum X^2 - \frac{(\sum X)^2}{N}\right)}$$

Where X = Individual observation

N = Number of observations

Table 4.2: Teachers' Perception on Curriculum Content Coverage by Pupils of both Groups

Variables	Scale					N	Mean	Std.
	1	2	3	4	5			
Pupils with pre-primary education have high ability in literacy and numeracy skills than those without	0	1	7	6	4	18	3.72	1.037
Pupils with pre-primary education have better attendance records than those without	0	3	5	7	3	18	3.56	0.984
OVERALL MEAN	3.64							

Interpretation of the Mean

4.21-5.00 = Pupils with pre-primary education are much better than those without

3.41-4.20= Pupils with pre-primary education are better than those without

2.61-3.40= No difference between pupils with pre-primary education and those without

1.81-2.60= Pupils without pre-primary education are better than those with

1.00-1.80= Pupils without pre-primary education are much better than those with

Source: Field Data (2016)

The results indicate that teachers had a perception that there was a difference between pupils with pre-primary education and those without pre-primary education in terms of ability in literacy and numeracy skills than those without (mean 3.72) and attendance records (mean 3.56). The overall mean was found to be 3.64 which indicate that pupils with pre-primary education and better than pupils without pre-primary education in terms of curriculum content coverage.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter gives a discussion of the results of the findings obtained from the analysis of the study findings. It also gives ideas contributed by respondents during interviews, ideas of the researcher and other peoples who show interest in this study and contribute their views in one way or another on the numeracy and literacy skills of the pupils with and without pre-primary experience. Also, findings of other researchers in this area were included to justify the results of present study.

5.2 Pre-primary Experience of the Pupils in Mkuranga District

With regard to the findings, it was argued that significant number of pupils (81/180; 45%) did not pass-through pre-primary school because pre-primary school has not been compulsory stage in academic system of the country. The government has put much emphasize on the primary schools at the extent that parents and/or guardians have been sued for not enrol their children in primary school. Moreover, in an attempt to ensure all children have access to primary education, the government has removed fees in public primary schools and now primary education is offered freely in public schools.

Furthermore, it was elaborated in this study that government through Ministry of Education recognizes importance of pre-primary education; unfortunately, it is not properly considered funded and monitored. Consider the fact that pre-primary education is not bided in Education Laws; there are no enough pre-primary school

facilities offered by the government. The study noted that in whole Mkuranga District there was only one public pre-primary school, which could not accommodate demand of pre-primary education to all children who needed it. The rest of pre-primary schools were owned by religious organizations and individual people.

Pre-primary education was proclaimed to be important to children development and it was encouraged by many educationists and human rights activists as well as government at some extent. In the discussion stage of this study it was argued that pre-primary education has been established in order to achieve two main goals. The first one is to enhance educational achievements to the young children and the second goal is to develop their social competences/skills and moral behaviours. Justice and Vukelich (2008) asserted that a great number of researchers and educators are of the view that pre-primary education is highly beneficial for the children's social development in terms of their individual needs and characteristics as well as educational development.

5.3 Numeracy and Literacy Skills of the Sampled Pupils

The researcher is in conjunction with substantial empirical evidence that indicate that pre-primary education has significant benefits to the children on their intellectual development in primary schools. Some of the investigators who have also found positive impact of pre-primary education on performance of child in primary schools are Ruhm (2004), Baker *et al.,* (2005) and Ali (2014). Baker *et al.,* (2005) shown that attending pre-primary school had a positive effect on subsequent third grade Spanish Language and Mathematics test scores. Therefore they accepted that pre-primary

experience helps in numeracy and literacy skills and knowledge development to the child. Conversely, empirical reviews in this study had shown that researches carried out in this respect had successfully made it clear that there is a marked difference in primary school performance among those pupils who have got pre-primary education and those who have not got it.

One of the respondent teacher in this study highlighted that “in pre-primary schools children learn many essential facts about people, objects and the universe simply by playing and singing”. Play and sing may be seen, therefore as one of the miracles of childhood by means of which children discover things essential to their well being and thoroughly enjoy the process of discovery. She added that “play and sing provides children with a variety of essential experiences: emotional, exploratory, sensory, and social experiences as well as experiences of communicate to the teachers.”

Additionally, the study found that the difference between pupils with pre-primary experience and those without was much small in grade four than in grade two. This can be due to the fact that at early grades (grade one and two) the skills different is clearly presence between the two groups (those with and without pre-primary experience). But as pupils move toward upper grades the skills difference disappear gradually following acquisition of skills by those who did not path through pre-primary school.

5.4 Gaining difference between Boys and Girls from pre-primary Experience

Concern thereof, the results of this study contribute to the small literature that has shown there no difference gain between boys and girls in pre-primary school. This can be confirmed on the information presented in the review of the literature of this study which shows that there were very few researchers who had found that there no difference gain between boys and girls in pre-primary education. Majority of authors have written that girls could gain more than boys from pre-primary schools.

5.5 Teachers' Perception on Curriculum Content Coverage

The findings obtain concern teachers' perception on curriculum content coverage was similar and was also different to the findings of some other researchers. It is similar to the findings obtained by Currie (2011) who found that pre-primary education positively affected pupil's behavioural skills such as attention, effort, class participation/ attendance, and discipline. This positive effect on behavioural skills provides evidence of possible pathways by which pre-primary education might affect successive curriculum coverage in primary school; as pre-primary experience facilitates the process of socialization and self-control necessary to make pupil attend to school. Another similar study is that of Gabriel (2010), who was on the view that in pre-primary schools, a child begins to talk about going to school and to look forward to it. Therefore, by the time the child enter primary school he/she already has enough experience in studying and not anxious about school environment.

According to what has been reported by Gabriel (ibid), it can be assumed that pupils with pre-primary experience have high chance of covering primary school

curriculum than those without pre-primary experience. It can be argued that children who have gone through the pre-primary experience would take more interest in their studies. Respondent teachers, especially grade two teachers, accepted that pupils with pre-primary experience can be more responsible and complete the given assignments in time. One of these teachers said that “most of the pupils with pre-primary experience understand the learning material quickly and easily and they are confident and ask more questions during teaching.” It was also proclaimed that majority of the grade two pupils with pre-primary experience participate actively in classroom activities; they do not feel shy, they are confident and have a number of playmates and so they do not hesitate participating in games or other co-curricular activities. It was added that they are also better in their adjustment with the teacher. And this is due to the fact that teachers at pre-primary are affectionate and sympathetic and children have had pleasant experiences with them.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATION

6.1 Introduction of the Chapter

This chapter provides conclusions and recommendations to the main findings in this study. The chapter ends with identifying areas for further research.

6.2 Summary of the Study

The study aimed at establishing effect of pre-primary education on the performance of primary school pupils, while focusing on the effect of pre-primary experience in numeracy and literacy skills on primary school performance in Mkuranga district. Accordingly the study posed three research questions to be answered and the questions were: (i) to what extent pupils in Mkuranga district have attended pre-primary education? (ii) What are the teachers' perception on curriculum content coverage among pupils attended and those who did not attend pre-primary school? (iii) What is the relationship between numerical skills and literacy skills to primary school pupils who attended pre-primary school and those who did not attend pre-primary school? (iv) Who gain most between boys and girls from pre-primary school experience?

6.2.1 Pre-primary Experience of the Pupils in Mkuranga District

The study found that in Mkuranga P/S more than two third had pre-primary school experience. But in Ngarambe and Mwalusembe P/Ss more than half of the sample respondents did not pass pre-primary schools. However, pupils with pre-primary experienced outnumbered those without pre-primary experience by just small

numbers. Therefore, the study concluded that that large number of pupils in Mkuranga District has attended pre-primary education but the difference between those attended and those did not attend pre-primary education is not so big.

6.2.2 Numeracy and Literacy Skills of the Sampled Pupils

It was found that pupils with pre-primary experience had high performance chance than those without pre-primary experience in both grade two and four. The study found that the mean scores in mathematics examinations were as follow: for the grade two pupils with pre-primary experience was 55% and those without was 30%; for the grade four pupils with pre-primary experience was 40% and those without was 25%.

The study also noted that pre-primary experience can increase mathematics performance (numeracy skills) of grade two and grade four pupils by 83.3% and 60% respectively. Concerning Kiswahili examination, the study found that the mean scores were as follow: for the grade two pupils with pre-primary experience was 69% while for those without such experience it was 24%; for the grade four with pre-primary experience was 65% and for those without pre-primary experience was 52%. Further, it was revealed that pre-primary education increase performance of reading and writing Kiswahili language (literacy skills) to pupils of grade tow and four by 187.5 and 25% respectively.

6.2.3 Gained difference between Boys and Girls from pre-primary Experience

The study found that there is similar gaining between boys and girls from pre-primary experience. The study found that performance average of boys with pre-

primary experience was 56% while for the girls was 55%, the difference is 1% which is almost negligible difference.

6.2.4 Teachers' Perception on Curriculum Content Coverage

The study found teachers have perception that pupils with pre-primary education have high ability in literacy and numeracy skills than those without this experience. They also perceived that pupils with pre-primary education have better attendance records than those without pre-primary education. Therefore, the study concluded that pupils with pre-primary experience have high ability to cover their class curriculum content than pupils without pre-primary experience.

6.3 Conclusions of the Study

Based on the findings, it was noted that pupils who had pre-primary education perform better in academics (numeracy and literacy) than pupils who did not attend pre-primary education. Hence, the study concluded that pre-primary education has positive impact on the numeracy and literacy skills development to the pupils in primary schools. However, the impact reduces with the increase of the grades. This is to say that in the lower grades the impact of pre-primary education in very high compare to the upper grades.

6.4 Recommendations of the Study

Since the study found that pre-primary education enhances primary educational achievements; recommendation have been addressed in improving availability of pre-primary education to the Tanzania society.

(i) The government of Tanzania is spending a very high amount of funds on improving our higher education. It is suggested that policy makers should give top priority to pre-primary school education and thus pay due attention to providing a strong foundation to the basic building block of education sector.

(ii) Pre-primary school education should be encouraged by the government by providing pre-primary educational facilities (classrooms, instructional materials, and equipments) needed for the success of this education. However, parents should be involved in their children's pre-primary education experience by providing the necessary materials.

(iii) There should be proper enlightenment campaign in the community on the importance of pre-primary education.

(iv) There should be enough public pre-primary schools with minimum fees that children coming from lower income families can also benefit from learning in pre-primary schools.

(v) The government should implement the law for monitoring operations of pre-primary education as well as investing in establishment of more pre-primary education facilities especially to the areas with low pre-primary enrolment rates.

6.5 Area for further Studies

Another similar study should be conducted in other districts. The new study should have a more comprehensive analyses and a large sample should be used in continuation of the study.

REFERENCES

Abdul, W. (2006). Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment. *American Economic Review, 91(5),* 795-813.

Ali, R. (2014). *Increasing teacher effectiveness, fundamentals of educational planning.* Paris: UNESCO.

Atuhurra, J. (2014). An Empirical Analysis of The Impacts of the Universal Primary Education Policies on Educational Performances in East Africa: A Comparative Study of Tanzania and Uganda's UPE. PHD Thesis: National Graduate Institute for Policy Studies. Nairobi, Kenya.

Babbie, E. (2004). *The practice of social Research Belmont.* London: Thomson Wadsworth.

Bailey, A. (1994). *The practise of social Research.*England. London: Thomson Wadsworth.

Baker, M. Gruber, J., and Milligan, K. (2005). Universal Childcare, Maternal Labor Supply and Family Well-Being. NBER Working Paper # 11832: Cambridge, UK.

Barrett, A. (2005). Teacher accountability in context: Tanzanian primary school teachers' perceptions of local community and education administration. *Journal of Education Policy* , 35(1), 43-61.

Bowling, A. (2014). *Research Methods in Health. Investigating Health and Health Services*: London: McGraw-Hill

Bursal, T. (2013). Student Achievement and Schooling Choice in Low-Income Countries. *Evidence from Ghana, 29(3),* 843-864.

Cascio, M. (2004). Monitoring Basic Skills Acquisition though Rapid Learning Assessments. *A Case Study from Peru, 35(2),* 137-156.

Currie, J. (2001). Early Childhood Education Programs. *Journal of Economic Perspectives, 15(2),* 213-238.

Decker, R. (2005). Policies to Foster Human Capital. *Research in Economics*, 54, 3-56.

Gabriel, J. (2010). *Children Growing Up.* London: London University Press Ltd.

Hawkins, O. (2007). Public and private provision of education in Kenya. *Journal of African economies*, 22, pp 39-56.

Irby, J., Brown, G., Alecio, R. and Jackson, S. (2013). *The handbook of Educational Theories.* Charlote: North Carolina.

Justice, M and Vukelich, C. (2008). *Achieving Excellence in Preschool Literacy Instruction.* New York: Guilford Press.

Kaul, B. (2013). Long-Term Effects of Early Childhood Programs on Cognitive and School Outcomes. *The Future of Children* , 1(3), 25-50.

Kothari, C. (2006). *Research methodology, methods and techinques.* New York: Willey Eastern Ltd.

Kweka, M., Rozensweig, M., and Wolpin, K. (2010). Parental Employment and Child Cognitive Development. *Journal of Human Resources, 39(2),*155-192.

Lyabwene, R and Nirmala, C. (2012). Strengthening Early Childhood Programs: A Policy Framework. *Education Policy Analysis* , 2(4), 125-140.

Maani, S. (1990). *Factors Affecting Academic Performance.* Kampala: Makerere University.

Magnuson, A., Ruhm, C., and Waldfogel, J. (2005). Does Prekindergarten Improve School Preparation and Performance? *Journal of Economics of Education Review*, *2(1),* 23-29.

Magnuson, L., Abagi, O., and Odipo, G. (2005). Quality Concerns in Primary Education in India. Where is the Problem? *In Education Commission, 3(1),* 1-17.

Mandi, H. (1969). Does Prekindergarten Improve School Preparation and Performance? *Economics of Education Review*, *4(2),* 21-30.

Mezieobi, M. (2006). *Schooling Attainment and the Introduction of Kindergartens into Public Schools.* Mimeo.

Miles, M., and Huberman, B. (2004). *Qualitative data analysis.* Thousand Oaks-England: Sage publications.

Mtahabwa, N. (2009). *Pre-primary education in Tanzania: Observations from urban and rural.* Dodoma: Elsevier Ltd.

Osakwe, R. (2009). Schools and Skills in Developing Countries: Education Policies and Socioeconomic Outcomes. *Journal of Economic Literature,* XL, 436-482.

Ouko, A. (2015). *Learning and Learning Difficulties.* A Handbook for Teachers. Victoria: ACCER Press.

Pass, S. (2004). *Parallel Paths to Constructivism Jean Piaget and Lev Vygotsky.* New York: Information Age Publishing:

Patton, M. (1990). *Qualitative Evaluationa and Research Methods.* California: Sage Publications Inc.

Pelech, J., and Pieper, G. (2010). *The Comprehensive Handbook of Constructivist Teaching. From theory to Practice*. New York: Information Age Publishing.

Pence, A. (2004). Improving the quality of basic education through curriculum development and reform. Commonwealth Policy Paper on curriculum reform. London, UK.

Polit, D., and Beck, C. (2004). *Nursing Research: Principles and Methods.* Lippincott: Williams and Wilkins.

Ratner, C. (1991). *Vygotsky's Sociohistorical Psychology and its contemporary applications.* New York: Plenum

Rokhaya, Y. (2010). *Mathematics achievement in the middle school years: IEA'S Third International Mathematics and Science Study*. Boston: International Study Center Boston College.

Ruhm, C. (2004). Parental Employment and Child Cognitive Development. *Journal of Human Resources, 39(5),* 155-192.

Samuel, U., and Berlinski, Z. (2006). Does cost of schooling affect enrollment by the poor? Universal primary education in Uganda. *Economics of Education Review, 22(3),* 291-305.

Saunders, M., Lewis, P and Thornhill, A. (2009). *Research methods for business student. 2th ed.* New York: Prentice Hall.

Sekaran, U. (2003). *Research Methods for Business. A Skill Building Aapproach.* New York: John Wiley & Sons.

Sentamu, N. (2014). School Influence of Learning: A Case of Upper Primary Schools in Kampala and Wakiso Districts. *Uganda Education Journal, 4(1),* 25 – 41..

Sheridan, T. (2010). *Securing the Future: Investing in Children from Birth to College.* Russell: Sage Publications Inc.

Skinner, C (Ed). (1945). *Educational Psychology (Rev. Ed.).* New York: Prentice Hall Inc.

Skinner, C. (Ed.). (1945). *Educational Psychology (Rev. Ed.).* New York: Prentice Hall Inc.

Strydom, H. (2005). *Writing the research report. third edition.* Pretoria: Van Schaik Publishers.

Tanzania Ministry of Education and Vocational Training, (2015, 2016). Basic Education Statistical Data. Dar es Salaam, Tanzania

UNICEF, (1999). *Policies and institutions for effective education service delivery.* Geneva: UNICEF.

UNESCO, (2008). *The contribution of early childhood education to a sustainable society*. Paris: UNESCO.

Wilayat, R., and Arshad, N. (2002). Investment in human capital: a theoretical analysis. *Journal of political economy*, *70(5)*, 9-49.

Wortham, V. (2012). *The limits of competence: knowledge, higher education and society.* Buckingham: Open University Press.

Yorke, K. A. (2012). A Comparative Study of Early Childhood Education in Selected Public and Private Pre-Schools in Kumasi. A Thesis submitted to the School of Graduate Studies, Kwame Nkrumah University of Science and Technology. Master of Philosophy, Accra, Ghana.

APPENDICES

Appendix I: Questionnaire to the Teachers of Standard 2 and 4

Date _____

Dear respondent

The researcher wishes to conduct a study on the Effect of Pre-primary Experience in Numeracy and Literacy Skills on Primary Schools' Performance in Mkuranga District. Kindly find attached questionnaire relating to the above topic. In order to meet this objective, you have been duly selected as a member of the sample to provide relevant and objective data needed to satisfy the quest for this knowledge. I wish to appeal to you to assist by kindly sparing a few minutes to complete this questionnaire. You may either disclose your identity or not. I also wish to assure you that your answer will be treated in strict confidence and used for academic purpose only.

When completed please return to the undersigned. Your cooperation in completing the questionnaire is greatly appreciated.

Yours sincerely

Mary Justice Mbogo

Part 1: Respondents Profile Data

1. What is your gender?

Male	Female

2. What is your age group?

20-30 years	31-40 years	41-50 years	51-60 years	61 years and above

3. How long have you been working as the teacher?

1 year	2-5 years	6-10 years	11-15 years	16-20 years	21year and above

4. Which class do you teach?

STD 2	STD 4

Part 2: Study Questions

5. The study wants to know teachers perception regarding curriculum content coverage among pupils of different characters in the class, especially grade 2 and 4 students. Therefore, respond on the given statement by put a tick in the box which presents your level of agreement (1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree).

Statement	1	2	3	4	5
In this class pupils who have attended pre-primary education have high ability of understanding the subject than those who did not attend pre-primary education					
In this class pupils who have attended pre-primary education have better attendance record than those who did not attend pre-primary education					

Thanks for your co-operation

Appendix II: Observation Guideline

Pupils' academic results of Mathematic and Kiswahili Exams at the End of term, 2016

Pupils' Position in Kiswahili or Mathematics	Name of the Pupil	Gender	Pre-primary status
1			
2			
3			
4			
5			
6			
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10			
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Appendix III: OUTPUT

Numerical skills

Pre-primary Experience				Statistic	Std. Error
Scores in Mathematic Examination	With Pre-primary Education	Mean		55.27	2.991
		95% Confidence Interval for Mean	Lower Bound	49.27	
			Upper Bound	61.27	
		5% Trimmed Mean		56.41	
		Median		55.00	
		Variance		465.063	
		Std. Deviation		21.565	
		Minimum		0	
		Maximum		90	
		Range		90	
		Interquartile Range		27	
		Skewness		-.668	.330
		Kurtosis		.793	.650
	Without Pre-primary Education	Mean		32.61	3.303
		95% Confidence Interval for Mean	Lower Bound	25.91	
			Upper Bound	39.30	
		5% Trimmed Mean		32.14	
		Median		30.00	
		Variance		414.462	
		Std. Deviation		20.358	
		Minimum		0	
		Maximum		75	
		Range		75	
		Interquartile Range		31	
		Skewness		.299	.383
		Kurtosis		-.760	.750

Pre-primary Experience				Statistic	Std. Error
Scores in Mathematic Examination	With Pre-primary Education	Mean		39.81	2.993
		95% Confidence Interval for Mean	Lower Bound	33.78	
			Upper Bound	45.83	
		5% Trimmed Mean		39.56	
		Median		40.00	
		Variance		420.897	
		Std. Deviation		20.516	
		Minimum		4	
		Maximum		78	
		Range		74	
		Interquartile Range		36	
		Skewness		.155	.347
		Kurtosis		-1.104	.681
	Without Pre-primary Education	Mean		34.23	3.601
		95% Confidence Interval for Mean	Lower Bound	26.97	
			Upper Bound	41.50	
		5% Trimmed Mean		33.33	
		Median		25.00	
		Variance		557.564	
		Std. Deviation		23.613	
		Minimum		0	
		Maximum		88	
		Range		88	
		Interquartile Range		35	
		Skewness		.795	.361
		Kurtosis		-.415	.709

Literary skills

Pre-primary Experience				Statistic	Std. Error
Scores in Kiswahili Examination	With Pre-primary Education	Mean		61.73	3.250
		95% Confidence Interval for Mean	Lower Bound	55.21	
			Upper Bound	68.26	
		5% Trimmed Mean		63.03	
		Median		69.00	
		Variance		549.220	
		Std. Deviation		23.435	
		Minimum		0	
		Maximum		100	
		Range		100	
		Interquartile Range		34	
		Skewness		-.887	.330
		Kurtosis		.281	.650
	Without Pre-primary Education	Mean		39.92	5.179
		95% Confidence Interval for Mean	Lower Bound	29.43	
			Upper Bound	50.41	
		5% Trimmed Mean		39.36	
		Median		24.00	
		Variance		1019.156	
		Std. Deviation		31.924	
		Minimum		0	
		Maximum		90	
		Range		90	
		Interquartile Range		62	
		Skewness		.294	.383
		Kurtosis		-1.741	.750

Pre-primary Experience				Statistic	Std. Error
Scores in Kiswahili Examination	With Pre-primary Education	Mean		62.72	2.627
		95% Confidence Interval for Mean	Lower Bound	57.44	
			Upper Bound	68.01	
		5% Trimmed Mean		63.03	
		Median		65.00	
		Variance		324.378	
		Std. Deviation		18.011	
		Minimum		22	
		Maximum		96	
		Range		74	
		Interquartile Range		28	
		Skewness		-.274	.347
		Kurtosis		-.571	.681
	Without Pre-primary Education	Mean		49.56	3.221
		95% Confidence Interval for Mean	Lower Bound	43.06	
			Upper Bound	56.06	
		5% Trimmed Mean		49.54	
		Median		52.00	
		Variance		446.205	
		Std. Deviation		21.124	
		Minimum		0	
		Maximum		91	
		Range		91	
		Interquartile Range		30	
		Skewness		-.030	.361
		Kurtosis		-.401	.709

Gender of the Selected Pupils with Pre-primary Experience				Statistic	Std. Error
Examination Scores	Male	Mean		54.56	2.751
		95% Confidence Interval for Mean	Lower Bound	49.01	
			Upper Bound	60.11	
		5% Trimmed Mean		55.03	
		Median		56.00	
		Variance		325.491	
		Std. Deviation		18.041	
		Minimum		14	
		Maximum		85	
		Range		71	
		Interquartile Range		24	
		Skewness		-.211	.361
		Kurtosis		-.436	.709
	Female	Mean		55.84	2.254
		95% Confidence Interval for Mean	Lower Bound	51.32	
			Upper Bound	60.36	
		5% Trimmed Mean		56.29	
		Median		55.00	
		Variance		284.501	
		Std. Deviation		16.867	
		Minimum		4	
		Maximum		89	
		Range		85	
		Interquartile Range		26	
		Skewness		-.396	.319
		Kurtosis		.403	.628