

**THE IMPACT OF SCHOOL LIBRARY ON PUPILS' ACADEMIC
PERFORMANCE IN PRIMARY SCHOOLS LEAVING EXAMINATION IN
MVOMERO DISTRICT OF MOROGORO, TANZANIA: 2007 – 2016**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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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, “The Impact of School Library on Pupils’ Academic Performance in Primary Schools Leaving Examination in Mvomero District of Morogoro, Tanzania: 2007 – 2016” in partial fulfilment of the requirement for the award of Degree of Master of Arts in Monitoring and Evaluation (MA.M&E).

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Dr. Felician Mutasa
(Supervisor)

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Date

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DECLARATION

I, Tumaini L. Mbibo, do hereby declare that this dissertation is my own original work and that it has not been presented and will not be presented in any university or institute for a similar or any other degree awards.

.....

Signature

.....

Date

DEDICATION

I dedicate this work to my brother Victor Lameck Mbibo who knowingly or unknowingly influenced me on and nurtured my perfectionism personality of which has led me to this specialization today.

ACKNOWLEDGEMENT

Eventually, after an intensive period of several months, today is the day that I am writing this note of thanks to mark the finishing touch on my dissertation. It has been a period of intense learning for me, not only in the monitoring and evaluation arena, but also on a personal level. Writing this dissertation has had a big impact on me. I would like to reflect on and extend my thanks to many people who so generously contributed to the work presented in this dissertation. Special mention goes to my enthusiastic supervisor, Dr. Felician Mutasa for the continuous support of my research and dissertation development, for his patience, motivation, enthusiasm, and immense knowledge. I could not have imagined having an encouraging supervisor for my dissertation.

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ABSTRACT

The study was on “The Impact of School Library on Pupils’ Academic Performance in Primary Schools Leaving Examination in Mvomero District of Morogoro, Tanzania: 2007 – 2016”. Its main objective was to examine the impact of school library programme (SLP) and academic performance in primary school leaving examination (PSLE) in Mvomero District between 2007 and 2016. The specific objectives were: to examine the estimated net impact of SLP on pupils’ academic performance; to determine the statistical significance differences of PSLE scores between the matched pairs of schools, to determine the effect size between the situation before and after the SLP, and to test the hypothesis on the effectiveness of SLP in pupils’ PSLE achievement scores. A consecutive sampling approach using multi-stage with criterion-i sampling techniques was used to select 30 primary schools. The study employed a quasi-experimental research using ‘before-and-after with control design’. Documentary review and computer-assisted techniques were used to collect data. Microsoft Excel was used to calculate the mean. Afterwards, collated data was analysed using SPSS version 17.0. Results: the difference-in-difference (DD) estimated the impact of 16.44% increase in PSLE score. Cohen’s *d* coefficient indicated 1.97 and 0.8 effect sizes for Treatment and Comparison groups, respectively. A two-tailed Paired Samples Test revealed that the mean score for the Treatment group ($p = 0.001$) was higher than the Comparison group ($p = 0.008$). On the other hand, $P = .001$ for the Treatment indicates stronger statistical significance than $P = .008$ for the Comparison, so the researcher rejected the null hypothesis. Generally, the key findings revealed that SLP can improve pupils’ academic achievement in primary schools.

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LIST OF ABBREVIATIONS AND ACRONYMS

BCE	Before Common Era
BRN	Big Result Now
CBA	Counterfactual-Based Approaches
CIE	Counterfactual impact evaluation
CIE	Counterfactual Impact Evaluation
CSLI	Center for the Study of Language and Information
DAS	District Administrative Secretary
DD	Difference-in-Difference
DED	District Executive Director
DEO	District Education Officer
DPEO	District Primary Education Officer
EFA	Education for All
ETP	Education and Training Policy
GoT	Government of Tanzania
IE	Impact Evaluation
LGAs	Local Government Authorities
MDC	Mvomero District Council
MDGs	Millennium Development Goals
MoE & NL-NZ	Ministry of Education and National Library of New Zealand
n.d.	No Date
NECTA	National Examinations Council of Tanzania
OPM	Oxford Policy Management
PCR	Pupils-Classroom Ratio

PEDP	Primary Education Development Plan
PLR	Pupils-Latrine Ratio
PSLE	Primary School Leaving Examination
PTR	Pupils-Teacher Ratio
RAS	Regional Administrative Secretary
RCM	Rubin Causal Model
RtR	Room-to-Read
SLPs	School Library Programmes
SPSS	Statistical Package for Social Scientists
TBA	Theory-Based Approaches
UPE	Universal Primary Education
USA	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter covers various aspects that include the background to the study, the statement of the research problem, and research objectives. It further considers research hypotheses, relevance of the study, and finally provides organization of the dissertation report.

1.2 Background to the Study

Provision of free primary education is one of the nationalised philosophies in Tanzania. It is widely stipulated in the national policy framework since independence - Tanzania was founded in 1964 following the amalgamation of the independent mainland Tanganyika (1961) and the islands of Zanzibar (1964). This priority has prompted waves of related policy changes and investment strategies both in Tanzania Mainland and Zanzibar. For instance, the Primary Education Development Programme (PEDP), since its inception in year 2002, has facilitated the expansion in access to primary education in Tanzania.

Substantial number of educational interventions has concurrently been introduced to support these efforts in view of improving quality of education in the country (Kassile, 2014; Makoye, 2014; Dennis & Stanley, 2012). Most of the educational intervention studies have shown that pupils' academic achievements are attributed to certain initiatives or inputs (Waita et al., 2015; Mgalla & Mbulanya, 2008). Only few have disassociated this relationship (Kassile, 2014).

Ultimately, the successes of these interventions are measured by way of academic performance. As part of an outcome of the learning process and knowledge transformation, academic performance is determined by summative test scores. At primary school level, this is done through primary school leaving examination (PSLE). For the purpose of assessing this outcome, individual pupils are said to have mastered a particular skill if they are able to correctly answer a set number of questions. Standards for individual pupil mastery are set universally in Tanzania, thus they do not change by region, language, or current average performance levels.

According to the National Examination Council of Tanzania (NECTA), one of the objectives of PSLE is to assess learners understanding of the basic skills and abilities in reading, writing and arithmetic. This objective renders abilities in 'reading' a very crucial factor in assessing the standard of education in Tanzania. The importance of pupils' mastery of skills and abilities in reading has scientific proof that reading comprehension is considered one of the very important and effective human vehicles in transforming information into knowledge. Researchers are therefore in agreement that there is a positive correlation between reading ability and academic achievement (Cimmiyotti, 2013:12; Al-Othman, 2003:120; Smith, 2001:1; Sheridan, 1981:66-70).

Experience shows that many educational interventions have been implemented by the government and other stakeholders in Tanzania. However, there are endless concerns about the quality of education in general and reading ability in particular. Evidence shows that basic skills and abilities in reading is still a challenge in Tanzanian education sector, thus affecting the learning outcomes. Generally, there is a consensus of opinion among education stakeholders and researchers about the

fallen standard of education in Tanzania (Lipovsek & Mkumbo, 2016; OPM, 2015; Twaweza, 2012; Dennis & Stanley, 2012; Mgalla & Mbulanya, 2008; Sumra, 2003). In one of their studies, Lipovsek and Mkumbo (2016:4) contend that the 2013 assessment revealed that 74% of Grade 3 pupils were not able to read and conduct simple mathematics at Grade 2 level. Lack of mastery of these basic skills are said to contribute up to 23% negative effect on pupils' academic achievement by PSLE period.

During the period covered by this study, there were broad regional inequality in the PSLE pass rate in one hand, and a growing trend of fluctuating pass rate countrywide on the other. These disparities and fluctuations have been well documented in Tanzania. For instance, the trend provided by Pettersson et al. (2015:68) indicated the drop of average PSLE pass rate from 70.5% in 2006 to 54.2% in 2007 nationwide; and Mgalla & Mbulanya (2008:2) indicate that the drop was from 52% in 2006 to 45.5% in 2007 in Mvomero district. The national average of PSLE pass rate dropped further to 49.4% in 2009, but according to Pettersson et al. (2015:68), the situation slightly improved to 53.5% in 2010. Later, the national average of PSLE pass rate deteriorated to 31% in 2012. The government, through the recently collapsed Big Results Now (BRN) initiative, unsuccessfully tried to set ambitious targets to increase the pass rate from 31% in 2012 to 80% by 2015 (GoT, 2012:4).

There are several factors that have mostly been studied in order to establish the linkage between educational interventions and academic performance in Tanzania. These include, but are not limited to Pupils-Teacher Ratio (PTR), Pupils-Latrines Ratio (PLR), Class Size/Pupils-Class Ratio (PCR), as well as availability of

electricity in schools, quality of teachers or teachers training, and mobile teaching, among others. Their successes and challenges are well documented, and they are respectively claimed to influence the increased pass rate in PSLE in Tanzania.

However, there are different schools of thought with regard to effectiveness of respective factors. In one of the studies, Kassile (2014:16) concluded that PTR and PLR have negative association with regional pass rates in PSLE. Mgalla and Mbulanya (2008:2), on the other hand, claim that mobile teaching approach contributed to improved learning achievements in PSLE from 45.5% in 2007 to 55.5% in 2008 in Mvomero district. Svensson and Pettersson-Lidbom (2008) contend that, although these claims suggest being scientifically sound, but they are often based on inflated expert opinions, poorly designed or executed studies, or premature or pseudo-scientific facts. These weaknesses suggest to have been instigated by the co-existence of multiple actors and multiple interventions targeting an improvement of the same outcome (academic performance) for the same group of people (pupils) which in turn render studies complex.

Room to Read Tanzania (RtR) has adopted and is promoting School library programme (SLP) mainly in primary schools in Mvomero district since 2011. The initiative aims at enhancing the reading skills in Tanzania. The expansion of this intervention is underway to cover other parts of the country. The introduction of school libraries, especially for primary schools in order to enhance the reading ability among school-age children is one of the emerging efforts to ensure outcomes of interest to that level.

Bearing the face of being a ‘new phenomenon’ in Tanzania, SLP sets a suitable avenue to be studied. This study therefore sought to single out SLP, as an educational intervention in co-existing environments, use counterfactual impact evaluation (CIE) methods to statistically analyse its impact so that demonstrate the effectiveness of the intervention. The study employed a quasi-experimental research using ‘before-and-after with control design’ as a stand-alone research design to comparatively describe the difference in academic achievement of pupils in selected primary schools with libraries and primary schools without libraries in Mvomero district, Morogoro region in Tanzania between 2007 and 2016.

1.3 Statement of the Research Problem

There are endless concerns about the quality of education in general and reading ability in particular in Tanzania. Evidence shows that basic skills and abilities in reading is still a challenge in Tanzanian education sector, thus affecting the learning outcomes (Lipovsek and Mkumbo, 2016:4). Numerous studies have been conducted in view of determining the factors that influence academic performance in primary, secondary and tertiary levels. Several factors have been linked with academic performance (Waita et al., 2015; Kassile, 2014; Mgalla & Mbulanya, 2008).

Literature shows that SLP is one of the suitable interventions in improving pupils’ academic performance (Benard & Dulle, 2014; Jato et al., 2014; Strong, 2013; Stone et al., 2011; Anderson & Matthews, 2010; Lance, et al., 1993). In one of the studies, Fakomogbon, et al. (2012:487) asserted that, “lack of standard school library with relevant information resources which students could use for their studies could be one of the major causes of mass failure in the school.” Although school library

programme (SLP) is one of the well-known education quality improvement interventions, but is not common in Tanzania, thus has been studied at a minimal. Literature review has revealed that most studies on school libraries conducted in Tanzania and elsewhere seem to have neglected primary schools in favour of secondary schools and tertiary institutions. Therefore, very little is known about school library in primary schools because not much have neither been studied nor documented about its linkage to pupils' academic performance. This study therefore seeks to fill this gap.

1.4 Research Objectives

1.4.1 General Objective

The purpose of this study was to examine the impact of school library programme on academic performance in primary school leaving examination (PSLE) of the selected primary schools in Tanzania generally, and Mvomero district in particular between 2007 and 2016.

1.4.2 Specific Research Objectives

- i. To examine the estimated net impact of school libraries on pupils' academic performance.
- ii. To determine the statistical significance differences of PSLE mean scores between the matched pairs of schools.
- iii. To determine the effect size between the situation before and after the school library intervention.
- iv. To test the hypotheses on the effectiveness of school library in pupils' PSLE achievement scores.

1.5 Hypotheses

It is assumed that when education quality improvement programmes are implemented together, each and every one contributes to the effect in the pupils' academic performance. The school library programme is not very common in Tanzania. Therefore, its practice has not substantially been studied. However, it is contended that there is a significant and positive relationship between school library and pupils' academic achievement.

Table 1.1: Hypothetical Assumption That School Library Affects Pupils' Academic Achievement

Hypotheses	Symbols	Words
H ₀	$\mu_1 = \mu_2$	There is no significant change in pupils' PSLE achievement scores in schools with school library.
H _A	$\mu_1 \neq \mu_2$	There is significant change in pupils' PSLE achievement scores in schools with school library.

Source: researcher, 2020

It is therefore, the Researcher's desire to demonstrate causal inference that estimates the net impact of school libraries in pupils' academic performance generally, and PSLE achievement scores in particular as one of the measurements of education quality within the ambit of co-existing educational intervention environments in Tanzania.

1.6 Relevance of the Research

It is worth noting here that RtR Tanzania has implemented school library programme in Mvomero district since the year 2011. By the time of this study, RtR was expanding its reading skills improvement programmes beyond Mvomero district. By then the programme was yet to be evaluated. It would be a desire of education

stakeholders to understand the importance of this programme in order for them to either preserve and expand the intervention or denounce it with confidence. It is therefore important to make a strong case on the impact and relevance of school libraries upon pupils' academic achievement. This study aimed at providing important information on why school library programmes are important to pupils, teachers, and other education quality improvement stakeholders in Tanzania.

The study demonstrated what school library programme have done for pupils' performance. It has comparatively shown the differences in PSLE scores between pupils from primary schools with libraries and primary schools without libraries. This information will contribute in bringing awareness to decision-makers about the importance of scaling up school library programme beyond Mvomero district. The Researcher hopes that this study will provide the impetus for more research to single out the impact of not only school libraries, but also other educational quality improvement interventions in co-existing environments in Tanzania. The outcome of this study will serve as an advocacy tool to help in recommending the suitable expansion and transferability of SLPs in the Tanzanian context.

1.7 Organization of the Report

This Dissertation Report is divided into five main chapters. Chapter one provides an introductory part of the study in which the background to the study is captured. Statement of the research problem is also covered in chapter one along with research objectives, research hypotheses, relevance of the research, and this part which provides the organization of this report. Chapter two covers literature review

whereby key concepts are defined along with a critical review of supporting theories. The chapter further covers empirical analysis of relevant studies generally and particularly those conducted in African countries and Tanzania, respectively. It concludes by identifying the research gap and provides a conceptual framework which eventually guides the analysis. Research methodology which comprise the study design, methods and procedures that were applied are all covered in Chapter three. Research findings are provided in Chapter four along with the lengthy discussions that include strengths and limitations of the study design. Lastly is Chapter five on conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Information presented in this chapter provides both theoretical and intellectual background to the study. It leads to a conceptual framework on which the analysis of this study was based. Thus serve as prelude to chapter three. The chapter provides conceptual definitions of key terms used in this study. A theoretical analysis which provides critical review of supporting theories is covered here. It further covers an empirical analysis of relevant studies generally, and particularly those conducted in African countries and in Tanzania, respectively.

The chapter reviews some literature on the factors that influence pupil's academic achievement. The review together helps in identifying a research gap. Finally, this chapter provides the conceptual framework which sets the basis for the formulation of hypotheses and choice of study analysis methods. It eventually summarizes the content covered in the respective chapter.

2.1 Conceptual Definitions

Literature reveals that there are various types of libraries such as; “Special library, National library, Public library, Research library, Academic library and so on...” (Fakomogbon et al., 2012:486). The focus of this study was on the school library. According to Edeka (2000), who has been cited by several studies and publications, school library is the one that has been established in a primary or secondary school. For the purpose of this study, the researcher adopted the working definition from Adewusi (2013:159) who defined ‘library’ as the place which is purposely located

within the school premises, whose function is to collect, organize, store, retrieve, preserve and disseminate various information to both teachers and students.

‘Academic performance’ is the extent to which a student, teacher or institution has achieved their short or long-term educational goals. This is measured by the final grade earned in the course. On the other hand, cumulative grade point average (GPA) and completion of educational benchmarks represent academic achievement. For the purpose of this study academic performance and academic achievement were used interchangeably. The International Federation of Red Cross and Red Crescent Societies (IFRC, 2011) and (Rogers, 2012:2) define ‘impact evaluations’ (IEs) as the processes of measuring changes in a development outcome that is attributable to a defined intervention. IEs are based on models of cause and effect that require a credible counterfactual to control for factors other than the intervention that might account for the observed change.

According to the European Commission's science and knowledge service - EU Science Hub (n.d.), “Counterfactual impact evaluation (CIE) is a method of comparison which involves comparing the outcomes of interest of those having benefitted from an intervention (policy or programme) – i.e. the ‘treated group’ with those of a group similar in all respects to the treatment group - i.e. the ‘comparison or control group’.” The only difference between the two groups being that the later has not been exposed to the intervention, thus provides information on ‘what would have happened to the members of the treated group had they not been exposed to the intervention.

2.2 Critical Review of Supporting Theories and Theoretical Framework

This study is guided by the counterfactual theory of causation. According to Menzies and Beebe (2019), the basic idea of counterfactual theories of causation is that the meaning of causal claims can be explained in terms of counterfactual conditionals of the form “If A had not occurred, C would not have occurred”. It is therefore worth noting that impact evaluations are all about attribution of cause and effect which answers the question as to what difference the intervention make (White & Phillips, n.d.). However, it is not easy to establish this connection. The bottom-line in impact evaluations is the efficacy that connects the cause with the effect. Counterfactuals are considered being at the heart of any scientific inquiry and plays a critical role in establishing this linkage.

Counterfactual is a potential outcome, or the state of affairs that would have happened in the absence of the cause (an intervention). The counterfactual model or potential outcome theoretical framework has become increasingly standard for causal inference in different disciplines including education. According to Gertler et al. (2011:35), this model and its assumptions are considered the suitable and acceptable approaches for analysing and providing robust evidence in impact evaluations.

Literature indicates that one of the major problems of counterfactuals has always been on what should be held constant and what should be given up when a researcher make a counterfactual supposition. Some researchers therefore consider that the sole use of counterfactual-based approaches (CBA) in impact evaluations tends to weaken the scientific credibility in attributing the measured changes, hence

a need for explanation. However, this does not necessarily defeat the fact that counterfactual model is a strong tool in impact evaluations. According to Haarstad and Disch (2009:24-25), the supposition can be relaxed by complementing the counterfactual model with a theory-based approach (TBA). They points out further that the combination of CBA and TBA provide a suitable avenue to explain the logical links between cause and effect.

According to the Center for the Study of Language and Information (CSLI, n.d.), although not all why-questions are requests for an explanation that identifies a cause, but it is worth noting that in a general sense it requires explanation. Therefore the demand to a concurrent use of CBA and TBA respond to Aristotle's conception that a causal investigation is the search for an answer to the question 'why?' This understanding sets the premise for use of the supporting theories and theoretical framework that guided empirical analyses of this study.

There are many theories that surround the concept of causality or rather causation. As these theories are associated with different disciplines, there is a need for careful theoretical analysis of the same to suit the empirical context of the study in question. Theoretically, the general principle is that for the element of causality to be realized, the cause or causal factors should precede the effect given that all other things are held constant. Again, it is worth noting that when many causes co-exist, they are considered being causal factors for the outcome of interest (intended or unintended effect). According to Wikipedia (n.d.), "An effect can in turn be a cause of, or causal factor for, many other effects, which all lie in its future." When such a situation occurs, the clarity in attributing the effect to a certain cause becomes complex. It is

this complexity that poses a great challenge in impact evaluations generally, and impact evaluation designs in particular as far as inquiry about causality is concerned.

Although the practice of inquiry about causality stemmed long time ago from early Greek and Chinese philosophers such as Aristotle (384-322 BCE) and Zhou Zhuang (369-286 BCE), but David Hume is considered the father of counterfactual theory. It was during the critical phase of the causation debate when Hume in 1748 upheld the model as less problematic and more illuminating. He is the one who also provided the first explicit definition of causation in terms of counterfactuals. The Researcher would like to highlight Hume's proposition that, "Causal inference leads us not only to conceive of the effect, but also to expect it" (CSLI, n.d.). This suggests being relevant to the course of reviewing the theoretical framework for this study.

Literature indicates further that the counterfactual theoretical framework underwent a number of scrutiny and refinements through debate and trials since David Hume's era. The Center for the Study of Language and Information (CSLI, n.d.) informs that apart from critiques to his own earlier proposition, other scholars from different disciplines also made substantial contributions to the development of the model before and after Hume.

The Wikipedia (n.d.) underscores the fact that the 1973 David Lewis's theory is the best known and most thoroughly elaborated counterfactual theory of causation. The literature points out further that it is notably important to know that the potential outcomes framework in a completely randomized experiments context was proposed by Jerzy Neyman early in 1923. This statistical analysis approach to study causation

was extended by Donald Rubin and his proponents along with other contemporary statisticians to include both observational and experimental studies. According to Wikipedia (n.d.), “in order to credit the work of the two i.e. Neyman and Rubin, researchers combined them and called it Neyman-Rubin counterfactual framework of causality”. This is also known as Rubin Causal Model (RCM).

The Researcher therefore paid much attention to Lewis’s 1973 influential counterfactual theory and the RCM. The researcher’s attention was based on the proposition by Holland (1986) that the former theory suggests being thoroughly elaborated while the later suggests being a suitable tool in critiquing the discussions of other writers on causation and causal inference. This study took a general route in view of the logic behind the causal effect that the former is partly responsible for the later, and in fact, the effect is partly dependent on the cause.

2.3 Empirical Analysis of Relevant Studies

Numerous studies have been conducted to explore the factors that influence academic achievements (Maganga, 2016, Waita et al., 2015; Kassile, 2014; Dennis & Stanley, 2012; Mgalla & Mbulanya, 2008). Among the many factors that have been studied, researchers have also considered the relationship between library usage and successful outcomes for academics. School library programme (SLP) is one of the well-known education quality improvement interventions (Lance, n.d.). Literature alleges that investigations into the relationship between library use and student attainment have, until recently, been uncommon (Stone & Ramsden, 2013:547). However, Zettwoch (2010) argues that, “This has been a topic of interest and study since the 1950s.”

In response to the allegations, a significant number of empirical studies have been conducted on relationship between library services and students' academic achievement around the world. Currently, there is an extensive body of evidence accrued from researches worldwide indicating that good SLPs are linked to higher academic achievement in pupils (Benard & Dulle, 2014; Jato et al., 2014; Strong, 2013; Fakomogbon, et al., 2012:487; Stone et al., 2011; Anderson & Matthews, 2010; Chan, 2008:11; VandeHaar, 2005:14-15; MoE & NL-NZ, 2002:5-6; Lance, et al., 1993; Lance, n.d.). One of the reasons behind this linkage is that good SLPs instigate the reading ability and culture.

In the United States of America (USA), school library has extensively been studied and have demonstrated a clear linkage between library services and academic performance. Lance (n.d.) came forward to clearly point out that "At this point, however, there is a clear consensus in the results now available for eight states: School libraries are a powerful force in the lives of America's children..." He asserted further that school library has empirically been documented as one of the factors that have powerful influences on student performance. In support of this, Zettwoch (2010) points out that a number of the articles included in the bibliography on the impact of libraries on academic achievement found similar results, "thus proving the positive impact that libraries have on academic achievement." (Zettwoch, 2010:2).

In a popular study known as the original Colorado study, Lance, Welborn, and Hamilton-Pennell (1993) examined the impact of school libraries and librarians on student performance. They found that school library is a direct predictor of reading

scores, and concluded that effective school library has powerful influences on student performance. In the same vein, Williams, Wavell and Coles (2001:5-6) analysed the 1993 work by Lance and colleagues on 'The Impact of the School Library Media Centers on Academic Achievement' along with others. During their analysis, they found that similar studies with similar results were conducted in South Texas and Alaska in 1991-1992 and 1997-1998 school years, respectively.

The original Colorado study has gained popularity to the extent of setting a precedent known as 'Lance model'. The Lance model has been replicated to examine school library as an agent of academic achievement in different parts across USA. According to Strong (2013:89-90), since the first 'Colorado study', Lance and colleagues' research has been replicated in 22 states and one Canadian province. VandeHaar (2005:3) explored the researchers' opinion and observations on the history, curriculum, and impact public school libraries on pupil achievement. The findings revealed that researchers have consistently found that SLPs have a positive and profound effect upon pupil achievement in numerous states where the studies were replicated in USA.

In United Kingdom, one of the popular studies was conducted on the impact of school library use and academic performance of students in Huddersfield University. The findings of the study indicated a positive relationship between the use of library and academic achievement - "There is a statistically significant correlation across a number of universities between library activity data and student attainment." The researchers recommended further studies in a larger scope than the one by Huddersfield University. This proposition was considered hypothetical, thus open for

further exploration by other researchers to confirm or decline the findings.

Stone and Ramsden (2013:546) took the liberty to investigate the Huddersfield University findings as a hypothesis for their study. The researchers employed both qualitative and quantitative approaches (a mixed method) aiming at, among other things, testing whether the original set of Huddersfield data was an anomaly. Again, the researchers' findings were not bold and conclusive. Instead, they reiterated the findings of the original study with a precaution that the drawn conclusions were not indicators that library usage and student attainment have a causal relationship. Generally, the research successfully demonstrated a statistically significant relationship (Stone & Ramsden, 2013:556).

Williams, Wavell and Coles (2013:15) conducted a desktop critical review of studies in Scotland. They studied, among other things, the impact of school library on pupils' academic achievement. One of their findings indicated that there was major evidence of increased test scores as a result of library interaction. This outcome resulted from the large-scale statistical analysis of the correlation between state standardised test results and different school library inputs and outputs.

In other researches along these lines, Lance and Hofschire (2012) examined the relationships between changes in school library staffing and changes in Colorado Student Assessment Program (CSAP) reading scores over time in Colorado public schools in USA. The study focused on finding out whether library services had an impact on the students reading habits. The ultimate comparative findings indicated a positive effect on students' academic achievement in schools provided library

services than schools where they had no library staffing (Lance & Hofschire, 2012:4-5).

Studies on school library and academic achievement have also been conducted in Pakistan. Dilshad and Akhtar (2019) observed that a positive relationship exists between library facilities and students' academic achievement. In Brazil, Paiva and Duarte (2017) used the qualitative and quantitative approaches (a mixed method) to study this linkage. They conducted a descriptive research in 3 Brazilian cities aiming at analysing and understanding possible contributions of the school libraries to students' Brazil-Reading Test in 24 public schools. The findings did not establish a vivid linkage; instead gaps were identified with regard to quality of library services.

The relationship between school library and academic achievement has also been examined in the African countries. Suleiman, Hanafi, and Tanslikhan (2018) reviewed the two pieces of work done by Vent (2006 & 2012) on the linkage of library service and academic achievement in Uganda. The two pieces of work are of great relevance to this study. According to Suleiman and colleagues (2018), Vent did a comparative study on the impact of library usage on achievement of students in secondary schools in Uganda. In this study, she compared two schools, one with and the other without a library service. The findings indicated that "...schools with library services performed better, while school without the library service did not perform better." Building on first study, Vent (2012) examined the relationship between library service and academic achievement of students in rural areas in Uganda. In her final analysis, she found that to some extent students' performance are influenced by library service.

De Jager (1997) studied on the link between library use and academic performance of students at the University of Cape Town, South Africa, Based on a statistical analysis, the findings of the study revealed that there was a high positive relationship between library and academic achievement. Paton-Ash and Wilmot (2015) examined issues and challenges facing school libraries in selected primary schools in Gauteng Province in South Africa. In a qualitative study, researchers employed orientation and grounded theory methodology to study school library. Semi-structured interviews were used to gather evidence in South Africa, and one of the findings indicated that the role of an intervention is out-dated. In view of their findings, they suggested that in order for the library effectiveness to be realized, a computerized system to modernize the learning process should be considered, among other things. Looking on the findings and suggestions from the researchers, school library suggests being a potential intervention.

Nigeria has numerous studies compared to other countries in Africa. It is also worth noting that most critique to the subject matter as well as studies that found a negative relationship between library services and students' academic achievement originated from Nigeria. Jato et al. (2014) observed study habits, use of school libraries and students' academic performance in selected secondary schools in Ondo State in Nigeria. The findings indicated that it is students' bad study habits to use school libraries that have negative effect on their academic performance. However, it does not tell exactly why the students' bad study habits to use school library have negative effect on their academic performance not something else that affects the performance.

Adeyemi (2009) focused on the students' learning outcomes in Secondary Schools in Ekiti State, Nigeria where 120 schools were included in the study. The findings indicates that the researcher rejected the null hypothesis that: "There is no significant relationship between the quality of school libraries and students' learning outcomes in secondary schools in Ekiti State, Nigeria as perceived by principals and teachers." (Adeyemi, 2009:6).

In Tanzania, not many studies have empirically been conducted. Literature reveals that most of the studies conducted in Tanzania on this subject are basically academic dissertations to fulfil the requirements for acquisition of degrees (Chipana, 2018; Maganga, 2016; Leo, 2016). Empirically, Benard and Dulle (2014) used qualitative and quantitative methods to investigate the access and use of School Library. "The main objective of this study was to assess access and use of library information resources by students of secondary schools in Morogoro Municipal" (Benard & Dulle, 2014). With this regard, the study findings were of no material value for this purpose. Cumulatively, most of the studies conducted on the relationship between school library and students' academic achievement indicates that school library has influence on pupils' academic performance. Taking into consideration the fact that some studies have indicated the opposite, a need for further research to confirm or denounce the findings is crucial.

2.4 Research Gap Identified

Empirical studies on education improvement in Tanzania have mainly focused on factors that influence pupil's academic achievement. In relation to this achievement, most of the studies have covered issues on PTR, PLR, PCR, availability of electricity

in schools (Kassile, 2014), teacher quality (Makoye, 2014), and mobile teaching (Mgalla & Mbulanya, 2008), among others. There is substantial number of studies that have recently focused on the influences of school library on academic performance. However, literature review has revealed that the cause and effect of school library provision is not fully understood from current research in Tanzania.

Observations accrued from literature review indicate that the focus on the effect of school library programme on academic performance in primary schools in Tanzania is negligible. Very little is known about school library in primary schools because not much have neither been studied nor documented about its linkage to pupils' academic performance. It is therefore not easy, at this stage, to conclude on whether there is a difference in pupils' academic performance between primary schools with libraries and primary schools without libraries in Tanzania. This situation suggests that there is a gap in establishing the fact that school library can have a positive impact on pupils' academic achievement. This study therefore seeks to fill this gap.

2.5 Conceptual Framework

The conceptual framework (*Figure 2.1*) illustrates co-existing interventions, at a minimal, that are considered being causal factors mostly affecting pupils' PSLE achievement scores being one of the intended learning outcomes in primary schools in Tanzania. The framework sets the basis for studying the chosen phenomenon - school library programme (SLP). It is also setting the basis for statistical analysis of the extracted data based on PSLE achievement scores measured on two occasions (i.e. before-and-after the SLP intervention).

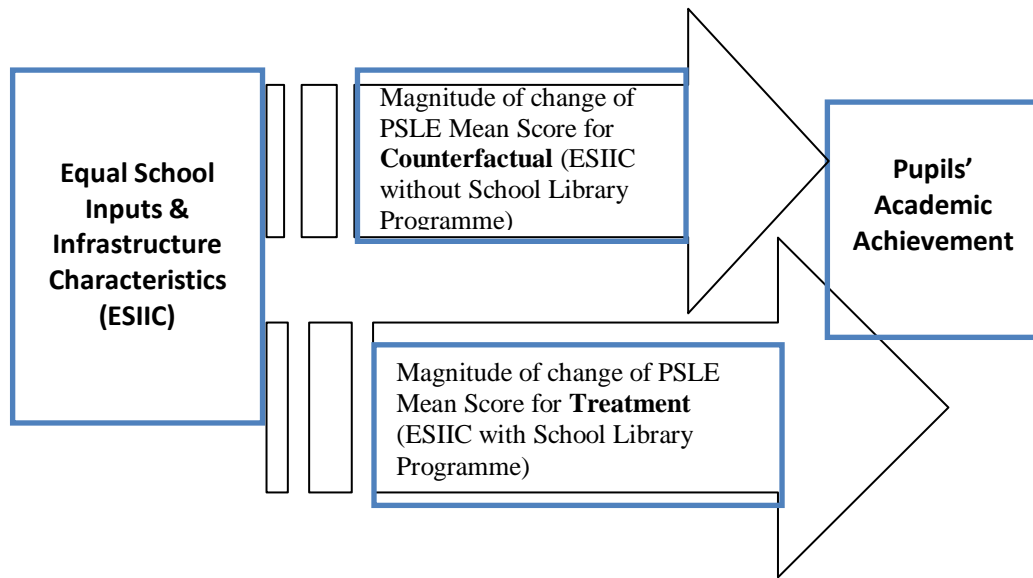


Figure 2.1: Conceptual Framework Showing Co-Existing Environment of Educational Quality Improvement Interventions in Tanzania to Illustrate Counterfactual Model with Treatment Cohort And Matched Pair of Comparison [Mbibo, Tumaini, 2019]

In the course of exploring the linkage between school library and pupils' PSLE achievement scores, the general empirical challenge is that schools with school library may differ systematically from schools without school library. With this regard, and in order to overcome such a cross-sectional selection bias, the Researcher used the school library initiative introduced by Room to Read Tanzania in Mvomero district since 2011. The main empirical concern, however, remains on internal validity that schools receiving school library may have changed differently even in the absence of school library.

In order to overcome an internal validity concern, the Researcher used an empirical assumption that school library intervention is analysed and measured in isolation while other potential co-existing causal factors are eliminated from the series to remain with the effects of one type of factor only (Kothari, 2014:148-149; IOB, 2008). To relax this empirical assumption further, both treatment and control schools are considered homogeneous (see Section 3.1) and that they are equally receiving other school infrastructure and inputs characteristics which sets the basis for a suitable difference-in-difference (DD) matching estimators.

The Researcher further utilized the advantage of the DD estimator to examine the comparative results' robustness by limiting the sample to schools that received a school library and the matched sample of schools drawn from a pool of schools that do not have a school library (i.e. the counterfactual). The DD estimator allows for time-invariant unobservable differences where the change is measured relative to some pre-programme benchmark time period between the treatment and comparison subjects (Todd, 1999:1-3; de Kemp, A., n.d.). The counterfactual theoretical framework and its assumptions were therefore used to provide a suitable approach for comparative analysis.

2.6 Limitations of the Study

The Researcher encountered several limitations in the course of pursuing this study, herein are some of the major limitations to this study:

- i. The PSLE results data in Tanzania is available, but it is scattered, not available at a single source - Failure to obtain reliable data renders the time series comparisons of dependent variable inherently unreliable.

- ii. It was logistically difficult to have a complete catalogued universe, a situation that rendered the units of the population somehow 'heterogeneous' in nature due to a large number of missing data value emerged from the simple random sampling carried out for the purpose.

2.7 Summary

The aim of the literature review was to examine evidence from empirical research which establishes a link between education quality improvement interventions (beyond material inputs) and academic achievement. Interventions have been reviewed to assess factors that affect the learning outcomes globally, regionally as well as across the country. On the other hand, the literature review intended to establish the above mentioned gaps that this research intends to fill. This sets the basis for the statistical analysis of the obtained panel data in order to attribute a net impact to the SLP intervention within the complex environment.

CHAPTER THREE

MATERIALS AND METHODS

This chapter covers the methodological issues regarding research design, target population, sampling, setting, procedure and ethical considerations, methods of data collection, data abstraction, and data analysis approach.

3.1 Research Design and Strategies

This is a longitudinal descriptive quantitative study with a ‘quasi-experimental research design’ that took a positivist approach using panel data (cross-sectional time-series data). It involved two cohorts to examine the effectiveness of school libraries as one of the co-existing educational quality improvement programmes currently implemented in Tanzania, and specifically in Mvomero. The two cohorts took into consideration the fact that one set of schools is exposed to school libraries while the other is not (Bruce, Pope & Stanistreet, 2008:197).

This study narrowed down to the so called ‘before-and-after with control design’ (Kothari 2004:41 - 42) to statistically compare the trend of PSLE results between schools in the two cohorts before-and-after the intervention (Green & Thorogood, 2009:43-45; MoE & NL-NZ, 2002:43). Green and Thorogood (2009:43) contend that unlike qualitative research that associates people with behaviours, attitudes, culture and the likes; quantitative research aims at determining the relationships between phenomena mainly assessing causes and outcomes (Table 3.1).

The major advantage with this method is that the Researcher was able to access both pre and post-school library intervention data which made time series comparisons of

dependent variables possible. Bruce, Pope and Stanistreet (2008:264) highlights one of the strengths and comparative benefit of the case-control studies over alternative designs being the savings made in terms of cost and time. On the other hand, according to the University of New Hampshire, internal validity is considered one of the main weaknesses of this research design.

Table 3.1: The Logic of Experimental Research Design Illustrating Treatment Effect In Before-and-After With Control Design

Cohort	Measurements at Time Period 1 (2007 – 2011).	Co-Existing Interventions Environment	Measurements at Time Period 2 (2012 – 2016).
Treatment Area	Level of Phenomenon Before Treatment (X).	Treatment Introduced →	Level of Phenomenon After Treatment (Y).
Control Area	Level of Phenomenon Without Treatment (A).	None	Level of Phenomenon Without Treatment (Z).
Treatment Effect = (Y-X). – (Z-A).			

Source: Modified from Green & Thorogood, 2009:43 and Kothari, 2004:42

The weakness is mainly attributed to the absence of randomization which renders the possibility of contaminated post-test data with reference to some critical difference not reflected in the pre-test. The chosen research design was able to address this weakness taking into consideration the fact that the dataset provides followed data accrued from homogeneous groups before the intervention, but who differ with respect to the treatment under study after the intervention. More importantly, panel data is attributed with the capability in solving an endogeneity problem that bears the likelihood of erroneous conclusions in policy evaluations. This scenario provided a good construct of a suitable counterfactual, thus be able to confirm whether the intervention factor has effect over the outcome of interest.

3.1.1 Ethical Considerations

This study aimed at looking on secondary data which was readily available in the public domain. The study did not involve human subjects, and the Researcher did not act upon study participants, instead observed the natural relationships between causes and outcomes (Green & Thorogood, 2009:45). This being the case, participants' confidentiality was totally ensured because the dataset contained no identifiers by any chance (Rogers, 2012:14), and a need for people to sign informed consent rendered itself redundant, thus ethical approval was not required. The Researcher used publicly available data with permission from the Local Government Authorities (LGAs) as appropriate (Appendix iv - vii).

3.1.2 Study Population

The population of the study consisted of all the 142 registered primary schools available in Mvomero district during the period of this study. A sample of 30 schools was drawn using relevant data collection methods and analysis techniques (within the prescribed time period of this study). Desk review and computer-assisted were the major data collection methods.

3.1.3 Setting and Justification

The study was conducted in Mvomero District Council. The district is among the 7 councils of Morogoro region. Administratively, Mvomero district has been divided into 4 Divisions, 30 Wards, 115 Villages and 640 Hamlets (MDC, n.d., & PwC, 2016:51). The main ethnic groups in the district are Luguru, Kagulu, Zigua and Nguu. While Luguru group dominate in Mgeta and Mlali wards, Kagulu, Zigua and Nguu dominate Mvomero and Turiani wards. The district is located at North East of

Morogoro region between 8000° and 10,000° Latitudes South of Equator, also between Longitudes 37,000° and 28,022°East.

Mvomero district has the total area of 7,325 square kilometres, and it borders with Handeni district to the North, to the East is Bagamoyo district, to the South is Morogoro Municipal and Morogoro district, and to the West there is Kilosa district (MDC, n.d.). The choice of this setting mainly considered the reasonable length of time in terms of existence of SLP intervention as compared to other districts with similar interventions. It is assumed that within the period of the aimed panel data (i.e. 2007-2016), the two cohorts has different status, one cohort being exposed to school libraries since 2011 while the other is a no-libraries subject (Kothari, 2004:34-35). This study examined the comparative trend of PSLE results between the two cohorts in Mvomero district.

3.2 Sampling

3.2.1 Sample Description

There were 142 primary schools in Mvomero district during the period of this study. The study drew its sample from the population - a list of all primary schools in Mvomero district (*see Appendix i*). A sample of 30 schools was drawn using relevant data collection methods and analysis techniques (within the prescribed time period of this study). Desk review and computer-assisted were the major data collection methods. As the first step in carrying out case-control study (Bruce, Pope & Stanistreet, 2008:265), 15 primary schools and 3 secondary schools, that are implementing school library programme since 2011, were identified in the district.

The sample and the target population therefore share similar characteristics, thus considered homogenous which is in line with Gertler et al. (2011:13-15). The study involved two cohorts taking into consideration the fact that one set of schools is exposed to school libraries while the other is not. These characteristics set the basis for trends comparison in terms of PSLE results between the matched cohorts (Bruce et al., 2008:197 & 268 - 269). To demonstrate a significant difference between the matched cohorts, the maximum sample size ($n = 15$) for each was considered. Data on dependent variables were extracted from the Government Open Data Portal and National Examination Council of Tanzania (NECTA) websites of which data sets are readily available in public domain for the two cohorts.

Observed discrepancies were complemented by the district level aggregated annual PSLE datasets obtained from the District Primary Education Officer's (DPEO) office in Mvomero District Council. No recruitment involved because only secondary data were analysed. The frame included time and place/district (Mugenda & Mugenda, 2003) of which education dataset comprise annual PSLE results data from all primary schools in the district was involved.

3.2.2 Sampling Design and Procedures

A consecutive sampling approach using multi-stage with criterion-i sampling techniques (Fig. 3.1) were employed for this study (Palinkas et al., 2016:6). The approach enabled the inclusion of all available treatment subjects so as ensure good representation of the universe (Castillo, 2009; Lunsford & Lunsford, 1995). All the existing 15 primary schools implementing school library programme were purposively included in Cohort 1 as Treatment/Case subjects (Appendix ii). On the

other hand, and in order to limit bias in the selection of Cohort 2 as Comparison/Control group (Bruce, Pope & Stanistreet, 2008:267; Mugenda & Mugenda, 2003:177), the statistical package for social science (i.e. SPSS Windows version 17.0 programme) was used to randomly select a matched pair (Appendix iii) from a list of all the ‘no-library subjects’.

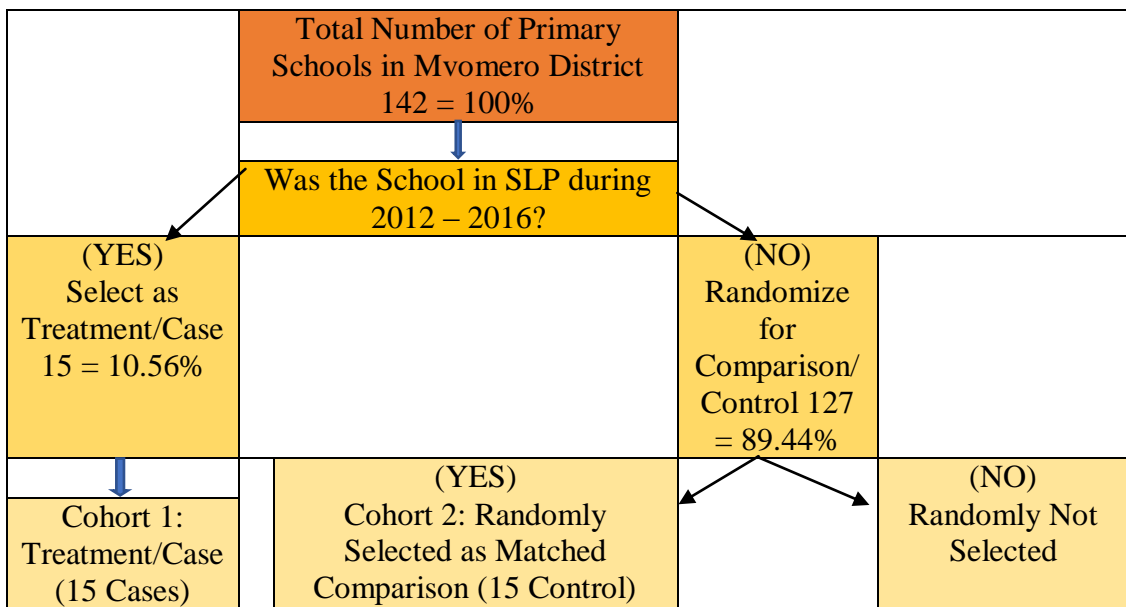


Figure 3.1: Sampling Design for Evaluating the Estimated Impact of School Library Programme On Academic Achievement

3.3 Variables

3.3.1 Independent Variable

The key independent variable for this study is ‘Time’ (being pre-test and post-test) herein employed a descriptive quasi-experimental using ‘before-and-after with control design’ to illustrate and demonstrate the effectiveness of the research design in estimating the impact of school library on pupils’ academic achievement using panel data.

3.3.2 Dependent Variable

The PSLE achievement scores is the key dependent variable drawn from respective studied primary schools for the period of year 2007 to 2016 and analysed using counterfactual impact evaluation (CIE) methods to determine an estimated net impact (i.e. effect size) of the intervention.

3.4 Data Sources, Data Collection Methods and Protocol

Literature defines secondary data as sets of routinely published analyses of primary data sources (Bruce, Pope & Stanistreet, 2008:86). In most cases the reliability of secondary data becomes questionable in a number of reasons including, but are not limited to validity, completeness, and the purpose of analysis which is likely to differ from the secondary user (Mugenda & Mugenda, 2003). This is also the case for PSLE achievement scores dataset whereby the data for some years were incomplete in a single source, a situation which renders a scattered nature in terms of its availability, thus attracted more than one data sources and data collection methods.

3.4.1 Data Sources

The Researcher relied on multiple sources of information to obtain the two key variables being academic performance in terms of the studied schools' average marks/pass rate (i.e. PLSE achievement scores) and school library status (having or not having school library) of the corresponding schools. The PLSE results dataset is the most reliable source for annual academic performance of pupils completing primary school education in Tanzania. The panel data are collected annually covering all primary schools in Tanzania. The main sources of data were therefore

the NECTA website, the Government Open Data Portal, DPEO's Office in Mvomero, and Room-to-Read Tanzania's Country Office in Dar es Salaam.

3.4.2 Data Collection Methods and Protocol

The internet-based and desk review were the main data collection methods used to obtain data for this study. Having interested by the school library initiative, the Researcher requested and obtained, from Room-to-Read Tanzania's Country Office in Dar Es Salaam, a list of primary schools that implement the school library programme in Mvomero district (Appendix viii). The remaining large proportion of data used in this study was extracted from PLSE results datasets for the years 2007 to 2016 available in public domain and accessed from the Government Open Data Portal and NECTA website along with the office of the District Primary Education Officer (DPEO).

In order to obtain data from documented records of the district level aggregated annual PSLE datasets for the period between 2007 and 2016 available at the DPEO's office, the Researcher has to follow the government protocol. The protocol required to seek for a Research Permit all the way from the offices of Morogoro Regional Administrative Secretary (RAS) through the Mvomero District Administrative Secretary (DAS) to the District Executive Director (DED) (Appendix iv - vii). The data obtained from the DPEO's office was used to complement and supplement missing data drawn from the Government Open Data Portal and NECTA website-based datasets.

3.5 Data Processing and Analysis

3.5.1 Data Processing

Data was extracted from identified sources based on the sampled subjects, accordingly. The extracted data was entered and stored in electronic devices/word processor. Data was then processed, categorically, using Microsoft Excel Worksheet to calculate the 'Mean' scores for each and every school and year, respectively (Table 3.2 and Table 3.3). The mean substitution technique (Kang, 2013:404) was used in handling the missing data values (see red-coloured data values in Table 3.2 and Table 3.3).

3.5.2 Details of Analysis

Counterfactual impact evaluation (CIE) analysis approaches were applied. Data extracted from the National Examination Council of Tanzania (NECTA) website, the Tanzania Government's Open Data Portal and Mvomero District Council was analysed using SPSS Windows version 17.0 programme. Three different statistical analyses were conducted to analyse the extracted time series secondary data. Paired Samples t Test, involving the mean different of the two cohorts, was run to test the hypothesis as well as determine the statistical significance of differences. SPSS version 17.0 was also used to calculate the effect size (Cohen's d coefficient) for a Paired Samples t Test.

On the other hand the difference-in-difference (DD) method was used to estimate the impact by gauging the difference between the situation before and after the intervention. The analytical process enabled comparative determination of the rates of change of the variables between 2007 and 2016 so as draw inference between the

two cohorts in terms of the relationship between school libraries intervention and change in pupil's academic performance (Bruce, Pope & Stanistreet, 2008:42; Mugenda & Mugenda, 2003:177).

Table 3.2: Annual PSLE performance/results with respective school mean per cent of PSLE results in primary schools with library before and after the school library programme (SLP)

No.	School Name	Situation Before School Library Programme						Situation After School Library Programme					
		2007	2008	2009	2010	2011	MEAN	2012	2013	2014	2015	2016	MEAN
1	Dihinda	66.70	89.80	85.10	81.60	84.90	81.62	72.16	96.46	118.84	87.21	75.46	90.03
2	Kanga	80.17	96.00	76.00	68.90	89.60	82.13	139.68	172.72	150.00	136.60	99.95	139.79
3	Kaole	68.00	58.00	62.00	64.00	68.00	64.00	80.58	127.41	154.29	132.79	114.85	121.98
4	Kichangani	85.02	88.18	79.17	98.05	91.58	88.40	93.69	147.86	136.37	198.95	138.56	143.09
5	Komtonga	72.65	70.82	80.12	81.23	82.10	77.38	84.55	108.92	108.27	99.12	93.87	98.95
6	Kwelikwiji	71.19	84.78	83.73	75.10	78.23	78.61	76.76	144.69	140.15	77.66	77.97	103.45
7	Lusanga	66.00	39.00	38.00	43.00	88.00	54.80	88.29	113.19	131.70	143.86	129.87	121.38
8	Makwalu	78.18	80.34	79.05	110.27	125.78	94.72	109.43	138.51	147.14	138.14	92.17	125.08
9	Manyinga A	125.34	136.23	159.26	135.96	132.23	137.80	121.14	138.31	176.74	172.94	132.70	148.37
10	Manyinga B	78.18	80.34	79.05	89.70	85.71	82.60	84.32	150.05	148.42	178.43	181.77	148.60
11	Mbogo	79.17	80.11	83.19	80.62	85.50	81.72	88.39	98.32	112.65	99.28	86.15	96.96
12	Mnazi Mmoja	78.18	80.34	79.05	82.69	88.57	81.77	89.38	130.11	153.91	143.82	95.12	122.47
13	Ngomeni	75.52	78.92	77.35	85.58	88.51	81.18	75.34	108.02	136.50	171.03	132.98	124.77
14	Njeula	78.18	72.00	52.00	66.00	64.00	66.44	58.67	157.53	111.08	118.33	134.00	115.92
15	Turiani B	70.17	70.20	72.63	77.60	75.77	73.27	78.25	119.60	96.89	138.81	111.73	109.06
	TOTAL	1,172.65	1,205.06	1,185.70	1,240.30	1,328.48	1,226.44	1,340.63	1,951.70	2,022.95	2,036.97	1,697.15	1,809.88
	MEAN	78.18	80.34	79.05	82.69	88.57	81.76	89.38	130.11	134.86	135.80	113.14	120.66

Table 3.3: Annual PSLE Performance/Results With Respective School Mean per Cent of PSLE Results in Primary Schools Without Library Before And After The School Library Programme (SLP)

No.	School Name	Situation Before School Library Programme					Situation After School Library Programme						
		2007	2008	2009	2010	2011	MEAN	2012	2013	2014	2015	2016	MEAN
1	Difinga	54.00	64.30	60.90	71.36	65.42	63.20	53.81	99.57	111.25	79.74	78.68	84.61
2	Digalama	27.74	44.00	41.34	48.91	31.98	38.79	64.71	78.25	136.20	144.86	126.13	110.03
3	Diongoya	65.80	69.20	72.70	70.40	63.30	68.28	82.61	94.45	114.38	141.21	126.54	111.84
4	Kambala	84.98	81.33	85.81	87.10	88.15	85.47	82.98	157.20	101.43	116.66	114.64	114.58
5	Kibaoni	82.50	32.20	29.70	28.10	93.90	53.28	100.09	136.68	113.02	152.68	138.83	128.26
6	Kihondo	84.98	81.33	85.81	87.10	88.15	85.47	62.00	81.22	94.72	84.27	61.96	76.83
7	Kinda	84.98	81.33	85.81	87.10	88.15	85.47	77.62	74.86	107.33	83.90	69.78	82.70
8	Lubanta	84.98	81.33	85.81	87.10	88.15	85.47	81.63	60.56	56.00	75.63	50.54	64.87
9	Mangaye	118.75	109.81	128.59	104.82	100.68	112.53	118.73	158.76	117.43	129.84	100.27	125.01
10	Mela	84.98	81.33	110.62	121.41	99.28	99.52	102.85	80.43	138.30	116.46	99.75	107.56
11	Mgeta	84.98	81.33	85.81	87.10	88.15	85.47	139.30	160.43	133.74	90.68	91.00	123.03
12	Mkata Kijijini	84.98	81.33	85.81	87.10	88.15	85.47	89.45	117.23	117.85	87.85	102.29	102.93
13	Mvomero	129.10	126.80	128.60	142.80	145.60	134.58	114.30	119.22	146.15	179.89	127.85	137.48
14	Tengero	117.00	123.00	114.00	109.00	105.00	113.60	82.25	139.25	125.46	127.47	110.00	116.89
15	Wami Vijana	84.98	81.33	85.81	87.10	88.15	85.47	89.45	111.29	154.50	145.50	161.00	132.35
	TOTAL	1,274.73	1,219.95	1,287.12	1,306.50	1,322.21	1,282.10	1,341.78	1,669.40	1,767.76	1,756.64	1,559.26	1,618.97
	MEAN	84.98	81.33	85.81	87.10	88.15	85.47	89.45	111.29	117.85	117.11	103.95	107.93

3.6 Summary

This chapter has extensively covered the whole process undertaken by the Researcher to the realization of this dissertation. It has covered both pre-and-post procedural issues which were necessary for the study to yield results. The chapter has also played a significant role in addressing issues on limitations of the study, and especially in handling of the missing data, as well as setting the basis for the interpretation of statistical analysis of the obtained panel data.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter provides information on the findings obtained from the range of employed methods along with literature review. It further provides the discussion on the interpretation of the study findings in line with study objectives. Finally, it addresses methodological issues with regard to strengths and limitations of the study that include, but are not limited to design, methods, validity and reliability.

4.1 Study Findings

Generally, this study sought to analyse the estimated net impact (causal effect) of SLP in Tanzania. It was especially aimed at attributing an outcome of interest to the intervention between 2007 and 2016. The interpretation suggests a practical success of the intervention. In response to the hypothetical thinking of this study, analyses of the collected data were linked to the study objectives to be presented and discussed here as study findings.

The literature review has substantially reported the effectiveness of SLP in relation to improving academic achievement scores in both primary and secondary schools. Most of the reviewed literatures were descriptive based on academic achievement data and ecological studies reporting observed relationship between SLP and improved academic achievement scores. There are several other reports and technical publications that described similar relationship. This study specifically analysed the relationship of the intervention and the possible outcome of interest. This was meant to measure the strengths of relationships between the variables. The outcome of this study can contribute to the body of knowledge in view of

educational policy formulation and programming aimed at improving quality of education in Tanzania.

4.1.1 Impact Of School Library In Pupil's Academic Performance

The first objective sought to examine the estimated causal effect (impact) of school library on pupils' academic performance in PSLE achievement scores. The differences-in-differences (DD) method was employed to estimate the impact of SLP (*Table 4.1*). The DD analysis outcomes suggest that the SLP intervention has instigated the variations between independent cohorts drawn from populations with homogeneous characteristics (*Table 3.2 and Table 3.3*).

Table 4.1: Difference-In-Difference (DD) Matching Estimator

Period	Primary Schools with SLP (Treatment)	Primary Schools without SLP (Comparison)	Difference	DD (Change)	
After SLP	120.66	107.93	(107.93-120.66)	(107.93-120.66)-(85.47-81.76)	
Before SLP	81.76	85.47	(85.47-81.76)		
Difference	(120.66-81.76)	(107.93-85.47)			
DD (Change)	(120.66-81.76)-(107.93-85.47)			16.44	
Differences		38.90	22.46	(-12.73).	3.71
Differences of Differences (DD).		16.44		16.44	

The difference in difference (also known as double difference) estimator is defined as the difference in average outcome in the treatment group before and after treatment minus the difference in average outcome in the control group before and after treatment - it is literally a "difference of differences. From the DD estimator, there is a variation of Mean differences of 38.90 within Treatment and 22.46 within Comparison in one hand (*Table 4.1*). On the other hand, SLP has responsibly indicated the variation of Mean difference of -12.73 and 3.71 between Comparison and Treatment for post-treatment and pre-treatment, respectively. The average PSLE

score increase by 16.44% was observed as an overall difference for the respective two pairs of differences which justify the presence of an impact caused by the SLP intervention.

Ideally, the sensitivity analysis and parallel trends are often looking to find ‘treatment’ and ‘control’ groups which can be assumed to be similar in every aspect except receipt of the treatment. This situation is considered the best in providing a suitable counterfactual. It is assumed that, in absence of treatment, the difference between ‘treatment’ and ‘control’ group is constant over time, thus if the DD estimate is different from 0, the trends are not parallel, and the original DD is likely to be biased. Looking at the DD Estimator (*Table 4.1*), the pre-test difference between Treatment and Comparison groups (which would presumably be equal to 0) is 3.71. This difference renders this study a potential culprit of bias.

However, the researcher has critically taken this theoretical perspective into consideration by considering the trends of the two cohorts more or less identical before the introduction of SLP intervention. Looking at *Table 3.2*, the deviation from the assumed 0 suggests to have been caused by the technique used in handling missing data values (see 3.5.1). From *Table 3.1* and *Table 3.2*, the pre-test mean Comparison score is much higher than the mean Treatment score (85.47 versus 81.76). Additionally, there were 37 out of 75 missing values for Comparison scores and 12 out of 75 missing values for Treatment scores. In order to maintain the randomization status of the Comparison group, the mean substitution technique (Kang, 2013:404) was applied in handling missing data values. With 49% of missing data for Comparison as compared to 16% of the Treatment, there was every

possibility of the deviation from the presumed 0 value for the difference between ‘treatment’ and ‘control’ groups at baseline.

4.1.2 Statistical Significance Differences of Academic Achievement

In view of responding to the second objective, the SPSS v.17.0 was used and Paired Samples t Test method employed to analyse and determine the statistical significance of differences of PSLE achievement scores between the matched pair of Treatment and Comparison/Control. The statistical analysis outputs have been provided in three tables (*Tables 4.2, 4.3 & 4.4*). According to the outputs drawn from the three tables, there are variations within and between the Treatment and Comparison groups in terms of pre-and-post SLP treatment, and they are herein presented accordingly.

The Paired Samples Statistics (*Table 4.2*) indicates that in one hand there was a difference in the PSLE scores for the Treatment (M = 120.66, SD = 18.68) and (M = 81.76, SD = 18.39) at post-test and pre-test situations, respectively. On the other hand, there was a difference in the PSLE scores for the Comparison (M = 107.93, SD = 21.67) and (M = 85.47, SD = 24.11) at post-test and pre-test situations, respectively.

Table 4.2: Paired Samples Statistics (Extract from SPSS v.17.0)

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest-Treatment	81.7627	15	18.38455	4.74687
	Posttest-Treatment	120.6600	15	18.67760	4.82254
Pair 2	Pretest-Control	85.4713	15	24.11195	6.22568
	Posttest-Control	107.9313	15	21.66906	5.59493

Although the primary objective of running a Paired Samples t Test is to find out the significant difference between the means of the two variables, but in comparing the pre-test and post-test variable measures, it becomes equally important to assess the strengths on how the two variables are associated (*Table 4.3*).

Table 4.3: Paired Samples Correlations (Extract from SPSS v.17.0)

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Pretest-Treatment & Posttest-Treatment	15	.431	.109
Pair 2	Pretest-Control & Posttest-Control	15	.254	.360

Looking at the Paired Samples Correlation (*Table 4.3*), the statistical outputs provided further information that SLP and PSLE scores are significantly positively correlated ($r = .431$) for Treatment and ($r = .254$) for Comparison. The association between the two variables indicates that the former is stronger than the later.

Table 4.4: Paired samples test (Extract from SPSS v.17.0)

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed).
Pair 1	Pretest-Treatment - Posttest-Treatment	-38.89733	19.77681	5.10635	-49.84937	-27.94530	-7.617	14	.000
Pair 2	Pretest-Control - Posttest-Control	-22.46000	28.02201	7.23525	-37.97807	-6.94193	-3.104	14	.008

Source: researcher, 2020

A two-tailed Paired Samples Test (*Table 4.4*) revealed that the two groups differed significantly. The mean score for the Treatment group ($M = -38.90$, $SD = 19.78$);

$t(14) = -7.617$, $p = 0.001$ was statistically significantly higher than the Comparison group ($M = -22.46$, $SD = 28.02$); $t(14) = -3.104$, $p = 0.008$. These findings support the idea that school library programme is effective in changing primary school pupils' academic achievement scores in Tanzania.

The result of the present study suggests that the SLP intervention implemented in Mvomero district is associated with an increase in PSLE pass (*Table 4.4*). This finding is similar to that previously reported in literature review (Williams, Wavell & Coles, 2013:15; Vent, 2013; Vent, 2006; De Jager, 1997). This study has also indicated that SLP is an independent predictor of academic achievement whereby there is an observed relationship between the presence of the intervention and the increased PSLE scores as compared to schools where the intervention is not existing (*Table 4.2*). The present study also found a minimal statistically significant correlation between the absence of SLP and academic achievement in Comparison group ($r = .254$, $n=15$, $p = 0.008$) as compared to the Treatment group ($r = .431$, $n=15$, $p = 0.001$). This result was expected because the Cohort is a non-SLP subject.

4.1.3 The Effect Size of the Situation Before and After the Intervention

The third objective of this study aimed at determining the effect size between the situation before and after the school library intervention. Since Cohen's d is not available in SPSS, the effect size was calculated using Microsoft Excel and they are herein presented for the Treatment and Comparison groups, accordingly. Although Cohen's d values for both Treatment and Comparison represent a large effect size (as per Cohen Effect Size Table), but comparatively, the effect size of the Treatment group = -1.97^* (*Table 4.5*) is larger than that of the Comparison group = -0.80^*

(Table 4.6). This indicates the fact that the implementation of SLP intervention in a parallel trends situation between the two cohorts has a causal-effect for the treatment group.

Table 4.5: Effect size (Cohen's d) calculation for treatment group

		Mean/SD	.	t/\sqrt{N}
Treatment Group (Effect Size)	Numerator (M)	-38.89733	Numerator (t)	-7.617
	Denominator (SD)	19.77681	Denominator (\sqrt{N})	3.87298335
	Cohen's d	-1.97	Cohen 'd	-1.97
				N = 15

Table 4.6: Effect size (Cohen's d) calculation for comparison group

		Mean/SD	.	t/\sqrt{N}
Comparison Group (Effect Size)	Numerator (M)	-22.46	Numerator (t)	-3.104
	Denominator (SD)	28.02201	Denominator (\sqrt{N})	3.87298335
	Cohen's d	-0.80	Cohen 'd	-0.80
				N = 15

*Take note that, in normal practice a negative effect size reveals that the effect is working against the independent variable by decreasing the mean value. However, that is not the case here. Instead, for this particular study, the negative sign of the Cohen's d resulted from the placement of the sample means at the analysis stage. The differences were obtained by deducting the post-treatment values from the pre-treatment values of which the former is presumably bigger than the later. Generally, the researcher investigated the effectiveness of SLP in academic achievement for pupils from the selected primary schools in Mvomero district.

The findings indicate, inter alia, that SLP has significant effect on the overall performance on the PSLE as the Treatment group outperformed the Comparison group. It has evidently been revealed that there is an indication that employing SLP in primary schools has a positive effect in improving academic achievement rates as compared to non-SLP in Tanzania. The findings that indicate significance on the relationship between SLP and PSLE scores are very relevant to the current study because it has demonstrated what would have happened in the absence of SLP – the counterfactual. However, this subject needs further exploration through research employing more rigorous approaches than the current study.

4.1.4 Hypotheses Test

The fourth objective was for the Researcher to test the hypotheses behind this subject matter. The Null Hypothesis states: “There is no significant change in pupils’ PSLE achievement scores in schools with school library.” When you perform a hypothesis test in statistics, a p-value helps to determine the significance of the results. The general principle in interpreting the p-value is that – the smaller the p-value the stronger the evidence against the null hypothesis. A two-tailed Paired Samples Test (*Table 4.4*) revealed that the two groups differed significantly.

Looking at the outcomes of the Paired Samples Test (*Table 4.4*), $P = .001$ for the Treatment group which is statistically highly significant than $P = .008$ for the Comparison group. A two-tailed Paired Samples Test (*Table 4.4*) revealed that the two groups differed significantly. These findings support the idea that school library programme is effective in changing primary school pupils’ academic achievement scores in Tanzania. Hence, the researcher rejected the Null hypothesis.

The hypothetical results of this study is generally similar to many others, and particularly the findings by Adeyemi (2009). In the cited study, according to literature review, the findings indicated that the researcher rejected the null hypothesis that, “there is no significant relationship between the quality of school libraries and students’ learning outcomes in secondary schools in Ekiti State, Nigeria as perceived by principals and teachers.”

4.2 Strengths of the Study

The methodological approach adopted in this study considered a number of issues in terms of strengths and weaknesses, the paramount factor for selection was its popularity in cost-effectiveness and non-time consuming. However, the study design alone does not ensure that the results are valid, precise and generalizable. It is equally important for the researcher to recognize the strengths and limitations of any study. Most of the issues regarding the strengths and limitations for this study have been discussed in Chapter Three on methods. At this particular level of discussion, the researcher is highlighting important points on different technical concepts.

4.2.1 Strengths

There are several factors that the researcher relied on in the course of choosing the employed study design for the current study. These strengths include, but are not limited to:

- i. The availability of data for pre-SLP and post-SLP is one of the very strong points that made time series comparisons of dependent variables possible.
- ii. The retrospective nature of the study design allowed the researcher to look back in time to detect causes for the presence or absence of an outcome of

interest.

4.2.2 Validity

Validity is referred to the extent to which a concept is accurately measured in a quantitative study capable of drawing inference (internal) and be generalized (external).

Internal Validity – Consistence in revealing significance in the outcome of interest suggests a substantial degree of internal validity for this study. Looking at the content point of view, with exception to the issue of missing data (which was technically handled), the cause-effect relationship has vividly been demonstrated and the pre-test and post-test approach enhanced the parallel trends which helped to minimize chances for confounding factors in a study.

External Validity - Although the study is not purely experimental design, but the degree to which the inference was drawn using different analytical approaches qualifies the study to be generalized to a broader scope beyond the study population. This argument is strongly supported by knowledge accrued from literature review.

4.2.3 Reliability

The extent to which all the items on a scale measured one construct was obvious taking into consideration the fact that the instruments used were state-owned. This quality renders the degree of reliability for this study very high in terms of homogeneity, stability, and equivalence.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

This chapter marks the end of the dissertation report. It provides a brief summation of what has transpired throughout the study. These include concluding remarks and recommendations by the researcher based on knowledge and experience accrued from the study.

5.1 Conclusion

The main aim of this study was to explore the linkage between school library programme and academic performance in primary school leaving examination (PSLE) of the selected primary schools in Tanzania generally, and Mvomero district in particular. The findings can be deduced that this study have demonstrated a positive effect of school library on pupils passing the PSLE. The trend of the tested independent variables (academic performance) has strongly demonstrated the relationship between SLP and the increased pass rate in the intervention areas (*Table 4.4*).

These results show that educational intervention strategies based on SLP can improve pupils' academic achievement in primary school settings and perhaps might be used in evidence-based decision making by relevant authorities. This study has established a need for better strategies to be employed in order to enable co-existing educational interventions work more effectively than it is now. The well thought strategies will help in overcoming confounding which seem to affect the outcomes of most educational-related studies. The results of this study adds value to the body of knowledge that can influence policy-making process and education sector

programming in view of improving quality of education in Tanzania. The study further provides recommendations on how to ensure quality of data for research purpose as well as a need to fine-tune library systems for scaling-up and sustaining the programme in a large geographical area while transitioning the programme investments and funding support from the government and development partners.

5.2 Recommendations

In view of the conclusions, and for the purpose of future research and strategies, the following recommendations are hereby made by the researcher:

- i. Annual primary school leaving examination (PSLE) results should be compiled and stored at all levels from schools through ward and district education offices to National Examination Council of Tanzania (NECTA) for data quality assurance purpose in educational based studies.
- ii. It is high time for relevant authorities to come up with a well-crafted national policy and guidelines to regulate modes of school library operations which compel school governing bodies to have a library in their schools.
- iii. Teachers' training curricula should incorporate librarianship as one of the major components in order to bridge the gap of lack of qualified library personnel so as make them available in all school libraries.
- iv. Similar research in a more rigorous manner than this one (beyond academic endeavour) is needed in order to clearly establish the magnitude of the attribution of school libraries to pupils' academic achievements in Tanzania.

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APPENDICES

*Appendix i: Sample frame - primary schools in Mvomero District Council**(Source: DEO Office – Mvomero District Council, 2019)***Key: SM=Selection Mode; P=Purposive; R=Random*

No.	Name	SM	No.	Name	SM	No.	Name	SM
1	Bumu		49	Lubanta	R	97	Mlumbilo	
2	Bunduki		50	Lubungo		98	MnaziMmoja	P
3	Bwage		51	Lugono		99	Mndela	
4	Changarawe		52	Lukunguni		100	Mnyanza	
5	Chohero		53	Lukuyu		101	Mombo	
6	Dibago		54	Lungo		102	Mongwe	
7	Dibamba		55	Lusanga	P	103	Mpapa	
8	Diburuma		56	Lusungi		104	Msolokelo	
9	Difinga	R	57	Madizini		105	Msongozi	
10	Digalama	R	58	Mafili		106	Msufini	
11	Dihinda	P	59	Mafuru		107	Mtibwa	
12	Dihombo		60	Mafuta		108	Mtipule	
13	Diongoya	R	61	Magali		109	Mvomero	R
14	Doma		62	Magunga		110	MwaraziMgeta	
15	Gonja		63	Maguruwe		111	Mwenge	
16	Hembeti		64	Maharaka		112	Mziha	
17	Homboza		65	Makuture		113	Mzumbe	
18	Hoza		66	Makuyu		114	Ndole	
19	Ifumbo		67	Makwalu	P	115	Ngomeni	P
20	Jegea		68	Mangaye	R	116	Ng'owo	
21	Kambala	R	69	Manyinga A	P	117	Ng'ungulu	
22	Kanga	P	70	Manyinga B	P	118	Ng'wambe	
23	Kaole	P	71	Manza		119	Njeula	P
24	Kibaoni	R	72	Mapanga		120	Nkungwi	
25	Kibati		73	Masalawe		121	Nyandira	
26	Kibigiri		74	Masanze		122	Pandambili	
27	Kibogoji		75	Masimba		123	Pemba	
28	KibukoMgeta		76	Maskati		124	Pinde	
29	Kichangani B	P	77	Matale		125	Semwali	
30	Kichangani		78	Mazasa		126	Sewe	
31	Kidudwe		79	Mbigiri		127	Sokoine	
32	Kigugu		80	Mbogo	P	128	Tandari	
33	Kihondo	R	81	Mela	R	129	Tangeni	
34	Kikeo		82	Melela		130	Tchenezema	
35	Kimambila		83	Mgeta	R	131	Tengero	R
36	Kinda	R	84	Mgudeni		132	Turiani B	P
37	Kipangilo		85	Mhonda		133	Turiani	
38	Kipera		86	Miembeni		134	Ubiri	
39	Kisala		87	Mikonga		135	Vikenge	

No.	Name	SM	No.	Name	SM	No.	Name	SM
40	Kisimagulu		88	Milama		136	Vinile	
41	Kiwandani		89	Misegese		137	Vitonga	
42	Kododo		90	MkataKijiji	R	138	WamiDakawa	
43	Komtonga	P	91	Mkata Ranch		139	WamiLuhindo	
44	Kunke		92	Mkindo B		140	WamiMagereza	
45	Kwadoli		93	Mkindo		141	WamiVijana	R
46	Kwawamanga		94	Mlaguzi		142	Yowe	
47	Kwelikwiji	P	95	Mlali		143		
48	Luale		96	Mlandizi		144		

*Appendix ii: Schools with library** (Sample Units for Treatment)*

(Source: DEO Office – Mvomero District Council, 2018 & Room to Read Tanzania Country Office, 2017)

***Purposively selected*

No.	Name
1	Dihinda
2	Kanga
3	Kaole
4	Kichangani
5	Komtonga
6	Kwelikwiji
7	Lusanga
8	Makwalu
9	Manyinga A
10	Manyinga B
11	Mbogo
12	MnaziMmoja
13	Ngomeni
14	Njeula
15	Turiani B

Appendix iii: School without Library* (Sample Units for Control)*******Randomly selected**

No.	Name
1	Difinga
2	Digalama
3	Diongoya
4	Kambala
5	Kibaoni
6	Kihondo
7	Kinda
8	Lubanta
9	Mangaye
10	Mela
11	Mgeta
12	MkataKijijini
13	Mvomero
14	Tengero
15	WamiVijana

Appendix iv: Research Permit/Clearance

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA WILAYA MVOMERO
(Burua zote zitawwa kwa Mkurugenzi Mtendaji Wilaya)

Simu No. 023 - 261 3223
 Fax No. 023 - 261 3007
 Unapajibu tafadhali taja:
 Kumb. No. MVDC/E.36/15/VOL IV/125



Ofisi ya Mkurugenzi Mtendaji (W),
 Halmashauri ya Wilaya ya Mvomero,
 S.L.P 665,
 Morogoro.
 Tarehe: 16/05/2018

Afisa Elimu Msiigi (W)
 Halmashauri ya Wilaya
MVOMERO.

YAI: KIBALI CHA KUFANYA UTAFITI NDG. TUMAINI MBIBO
MWANAFUNZI WA CHUO KIKUU HURIA

Husika na kichwa cha habari tajwa hapo juu.

Namtambulisha kwako mwanafunzi tajwa hapo juu kuja kufanya utafiti katika Halmashauri ya Wilaya ya Mvomero. Utafiti huo unahusu *"Efficacy of research designs on impact evaluation analyses of educational interventions in Tanzania"*

Utafiti huo utaanza **Mei, 2018** hadi **Juni, 2018**

Naomba apewe ushirikiano wa kutisha ili aweze kukamilisha utafiti wake.


 E.E. Ngobei
 Kny: **MKURUGENZI MTENDAJI (W),**
HALMASHAURI YA WILAYA,
MVOMERO.
 N. Y. MKURUGENZI MTENDAJI
 HALMASHAURI YA WILAYA
 MVOMERO

Nakala
 Vice Chancellor
 Chuo Kikuu Huria
DAR ES SALAAM.

Bw. Tumaini Mbibo
MTAFITI.

Appendix v: Introduction Letter from DAS Mvomero to DED Mvomero

**THE UNITED REPUBLIC OF TANZANIA
PRIME MINISTER'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**



Telegram: "DISTRICT COM"
Tel: 0232601670
Fax: 023 2601670

District Commissioner's Office
Mvomero District
S.L.P. 59
MOROGORO

REF: NA.AB.19/293/01'A/145: **10TH MAY, 2018**

**DISTRICT EXECUTIVE DIRECTOR
MVOMERO**

RE: RESEARCH PERMIT

Kindly refers to the captioned heading above.

2. I have the honor to introduce to you **Mr. Tumaini Mbibo** a student **Open University of Tanzania**, pursuing **Masters of Arts in Monitoring and Evaluation** who is currently required to conduct his research in our District.
3. The permit granted to him to undertake his research from **May 2018**, to **June, 2018**.
4. The title of research is **"Efficacy of research designs on impact evaluation analyses of educational interventions in Tanzania"**.
5. In a due course you are requested to assist him with all necessary requirements that might be needed to accomplish his research successfully.
6. With regards,

Baiba
BALITOLO A. SAIDA
**FOR: DISTRICT ADMINISTRATIVE SECRETARY
MVOMERO**


COPY:

1. VICE CHANCELLOR,
THE OPEN UNIVERSITY OF TANZANIA
DAR ES SALAAM
2. **MR. TUMAINI MBIBO
RESEARCHER.**

DISTRICT ADMINISTRATIVE SECRETARY
MVOMERO

Appendix vi: Introduction Letter from RAS Morogoro to DAS Mvomero

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

Telegraphic Address: "RUGCOM" Phones: 023 2604237/2604227 Fax No: 260 09 73 <i>In Reply please quote:</i>		Regional Commissioner's Office, P.O. Box 650, MOROGORO.
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Ref. No: AB. 1/5/245/01/43 10th May, 2018

District Administrative Secretary,
Mvomero.

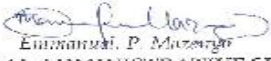
Re: RESEARCH PERMIT

Please refer to the above mentioned subject.

I have a great honour to introduce to you **Mr. Tumaini Mbibo** a student of the Open University of Tanzania pursuing Masters of Arts in Monitoring and Evaluation. The named student intends to conduct research in your District as part of the requirements of his Master's programme.

The title of the research in question is *'Efficacy of research designs on impact evaluation analyses of educational interventions in Tanzania'*. The period under which this permission is valid is from May, 2018 to June, 2018.

Please accord him with your cooperation to enable the accomplishment of this important activity.


 Emmanuel P. Muzungu

For: REGIONAL ADMINISTRATIVE SECRETARY

Copy: Vice Chancellor
The Open University of Tanzania,
Dar es Salaam.

✓ Mr. Tumaini Mbibo - Researcher

Appendix vii: Introduction Letter from OUT to RAS Morogoro

THE OPEN UNIVERSITY OF TANZANIA
DIRECTORATE OF RESEARCH, PUBLICATIONS, AND POSTGRADUATE STUDIES

Kawawa Road, Kinondoni Municipality,
P.O. Box 23409
Dar es Salaam, Tanzania
<http://www.out.ac.tz>



Tel: 255-22-2666752/2668445
Ext.2101
Fax: 255-22-2668759,
E-mail: drps@out.ac.tz

Date: September 05th, 2018

Regional Administrative Secretary
P.O.Box 650
Morogoro

RE: RESEARCH CLEARANCE

The Open University of Tanzania was established by an act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No. 55 in the official Gazette. The act was however replaced by the Open University of Tanzania charter of 2005, which became operational on 1st January 2007. In line with the later, the Open University mission is to generate and apply knowledge through research.

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **MIR. TUMAINI MBIBO** Reg. PG201608651 pursuing Masters of Arts in Monitoring and Evaluation. We hereby grant this clearance to conduct a research titled "*Efficacy of research designs on impact evaluation analyses of educational interventions in Tanzania*". He will collect his data at Mvomero district.

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O. Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,


Prof. Hossea Rwegoshora
For: **VICE CHANCELLOR**
THE OPEN UNIVERSITY OF TANZANIA

Appendix viii: Introduction Letter from OUT to Room to Read Tanzania**THE OPEN UNIVERSITY OF TANZANIA****DIRECTORATE OF RESEARCH, PUBLICATIONS, AND POSTGRADUATE STUDIES**

Kawawa Road, Kinondoni Municipality,
P.O. Box 23409
Dar es Salaam, Tanzania
<http://www.out.ac.tz>



Tel: 255-22-2666752/2668445
Ext.2101
Fax: 255-22-2668759,
E-mail: drops@out.ac.tz

Date: August 30th, 2017

Country Director
Room to Read Tanzania
P.O.Box 10545
Dar es Salaam

RE: RESEARCH CLEARANCE

The Open University of Tanzania was established by an act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No. 55 in the official Gazette. The act was however replaced by the Open University of Tanzania charter of 2005, which became operational on 1st January 2007. In line with the later, the Open University mission is to generate and apply knowledge through research.

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you MR. TUMAINI MBIBO Reg. PG201608651 pursuing Masters of Arts in Monitoring and Evaluation. We hereby grant this clearance to conduct a research titled "*Efficacy of research designs on impact evaluation analyses of educational interventions in Tanzania*".

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O. Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

Prof Hossea Rwegoshora
For: VICE CHANCELLOR
THE OPEN UNIVERSITY OF TANZANIA